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INNOVATION IN AMERICA

The Challenge We Face • What Must Be Done

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COMPANIES:

HOW THEY DO IT

HOW THEY FINANCE IT

OUR NEW R&D
SCOREBOARD

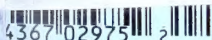
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WHAT'S HOT IN
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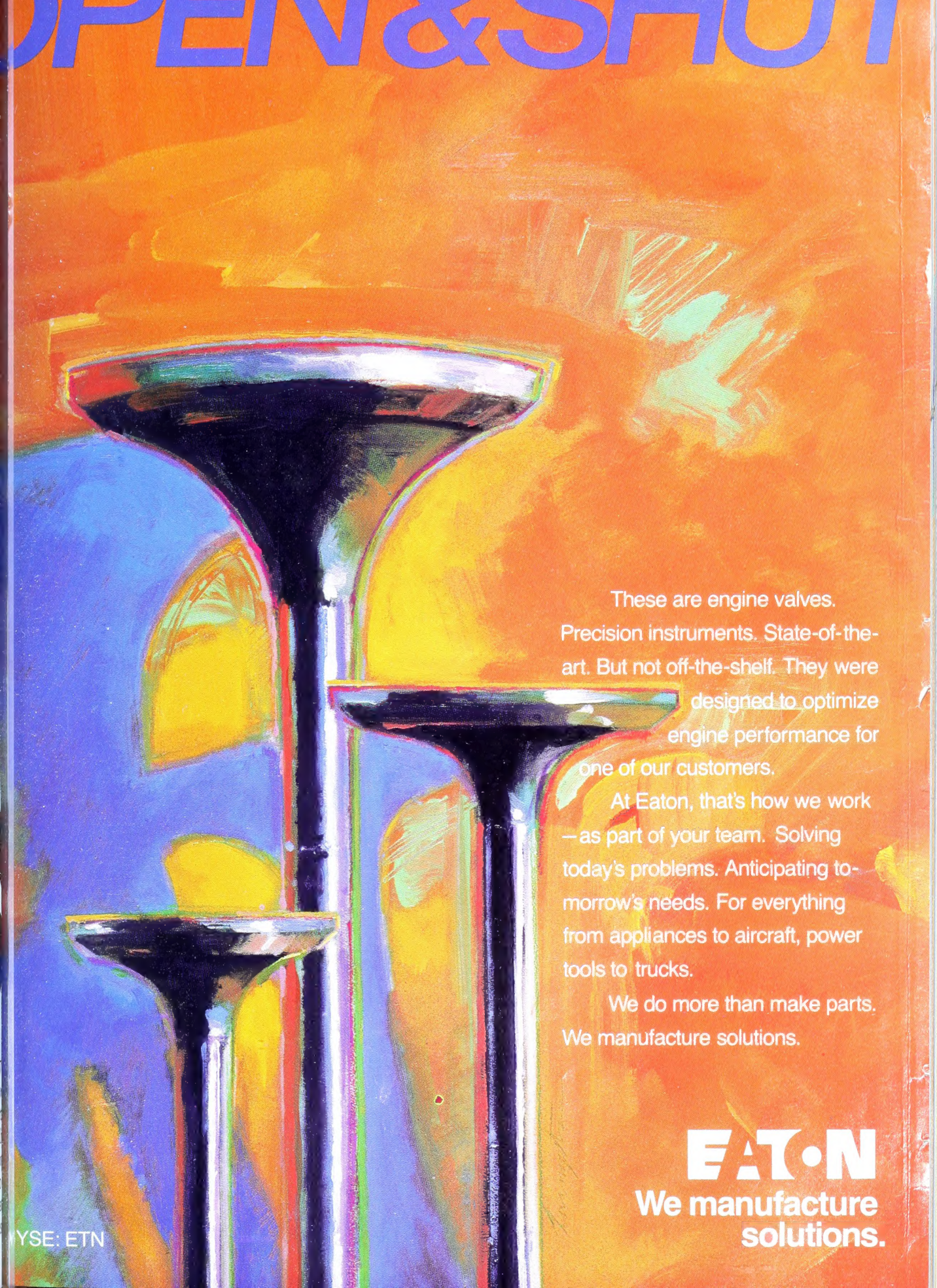
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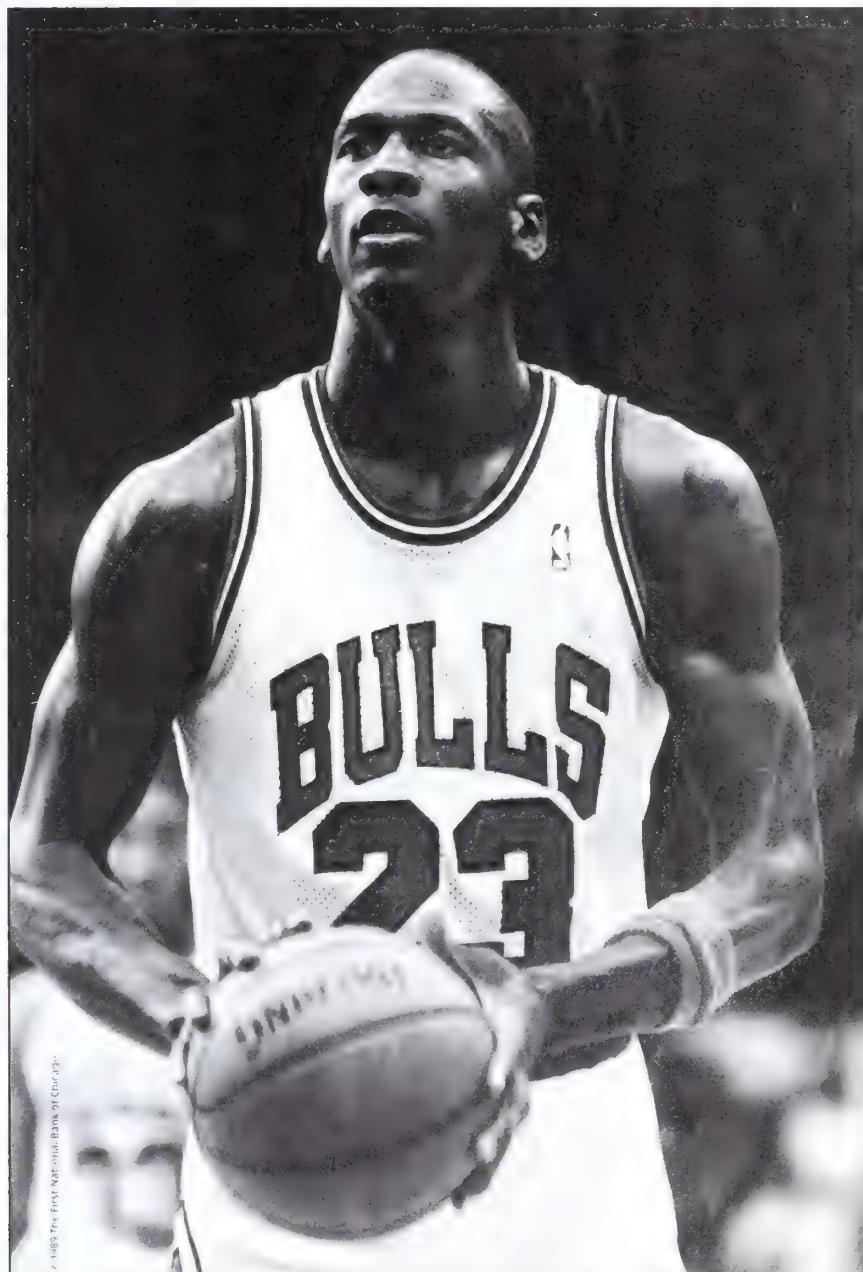
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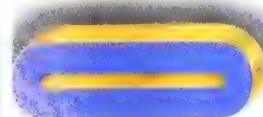
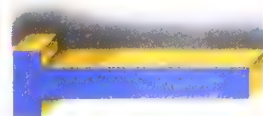
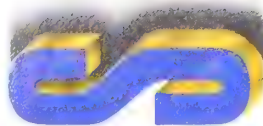
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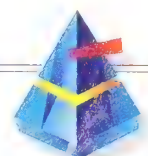
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Few are flying solo anymore

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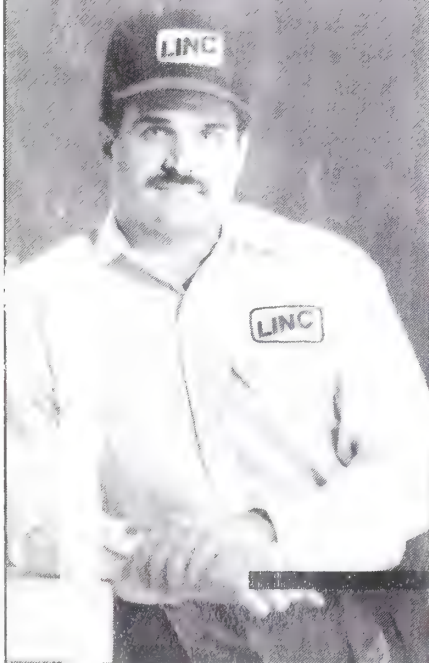
Two dozen New York editors, art directors, and production experts worked with BUSINESS WEEK bureaus to produce this special issue

THE MAGAZINE YOU'RE HOLDING is the end result of the single biggest project ever undertaken by the staff of BUSINESS WEEK. In all, two dozen New York editors, art directors, photo editors, and production specialists worked with a mountain of material filed by every one of our 16 domestic bureaus and several foreign correspondents as well. The upshot: a single-topic bonus edition sent to all our subscribers.

Our goal was to capture a pivotal moment in the history of a nation. During its first century, America demonstrated to the world the political power of a new idea: democracy. But that idea didn't make it a world leader. What did was the economic power the country mustered during its second

century. Much of that was inherent, of course, in its timber, minerals, and cropland. But much was the result of economic democracy—the opportunity for even ordinary citizens to take an idea, fashion it into a product, and sell it for a profit. That opportunity was not unknown abroad, and it was by no means universal here. But the process we now call innovation worked best in America.

Or did. Today, doomsayers think that Americans are losing the ability to innovate. This special issue says otherwise. From high tech to low tech, from Silicon Valley to the Ohio Valley, our correspondents found plenty to write about. Innovation can be seen on the floors of Rubbermaid's factories, not just the halls of Hewlett-Packard.



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It still thrives in the labs of such giants as IBM, Ford, and Eastman Kodak. It's sprouting in such little companies as Lam Research, SEI, and Aritech.

Yet we are clearly not as competitive as we once were. In part, other nations have inevitably mustered some economic power of their own to close the gap that loomed so large at the end of World War II. But in part, we ourselves are to blame.

WILL THAT CHANGE? WE PROBABLY won't start making all our consumer electronics here again. We probably shouldn't anyway. In today's global markets, as some countries come to dominate certain products, the displaced leaders may be better off exploring new markets. But the America our correspondents surveyed is alive with ideas and eager to get going again. We have lifted off our larder too long, and we know it. Now we are trying to find a new formula for success.

Which companies will keep the phrase "Made in America" meaningful? We've tried to provide a few answers. Although *Innovation in America* was mainly a subjective exercise, it has a quantitative side as well. The issue includes BUSINESS WEEK's annual R&D Scoreboard, a tabulation of the research spending of nearly 900 companies. This year, we did a little innovating of our own: We ranked the companies by how much they spend on R&D relative to their size. We did this after commissioning a study to determine if a link exists between research spending and success in the marketplace. It does—quite a strong one, in fact. I'm sure you'll find this more informative approach to the Scoreboard interesting.

But statistics, no matter how im-

pressive, can never tell you all you want to know about a subject as elusive as innovation. Only interpretive reporting can—the kind that is BUSINESS WEEK's stock in trade. This special issue is an outstanding example of that. It seeks to explain how things went awry in America and to fathom why some companies remain innovative while others do not. Through innumerable examples, profiles, and case studies, it examines the importance of product design and manufacturing and takes a close look at how innovation can best be managed and financed. It also strives to understand what the government's role should be in all this. And it concludes with recommendations that some readers are bound to find controversial.

Of necessity, this project had to cut across almost all our departments. It was directed by Assistant Managing Editor Anthony J. Parisi, who was also responsible for revising the R&D Scoreboard. Senior Editor Alan Hall marshaled his Science & Technology staff to produce four of the sections: Introduction, The Technological Base, Product Development, and Recommendations. Senior Editor G. David Wallace drew from the magazine's Corporation and Finance departments to turn out Managing Innovation and Financing Innovation. The stunning graphics and handsome design were the handiwork of Associate Art Director Jay Petrow.

For them and their colleagues, *Innovation in America* was a mammoth, at times overwhelming, challenge. But I believe they captured the essence of both the problem and the solution. Judge for yourself.

Stephen B. Shepard

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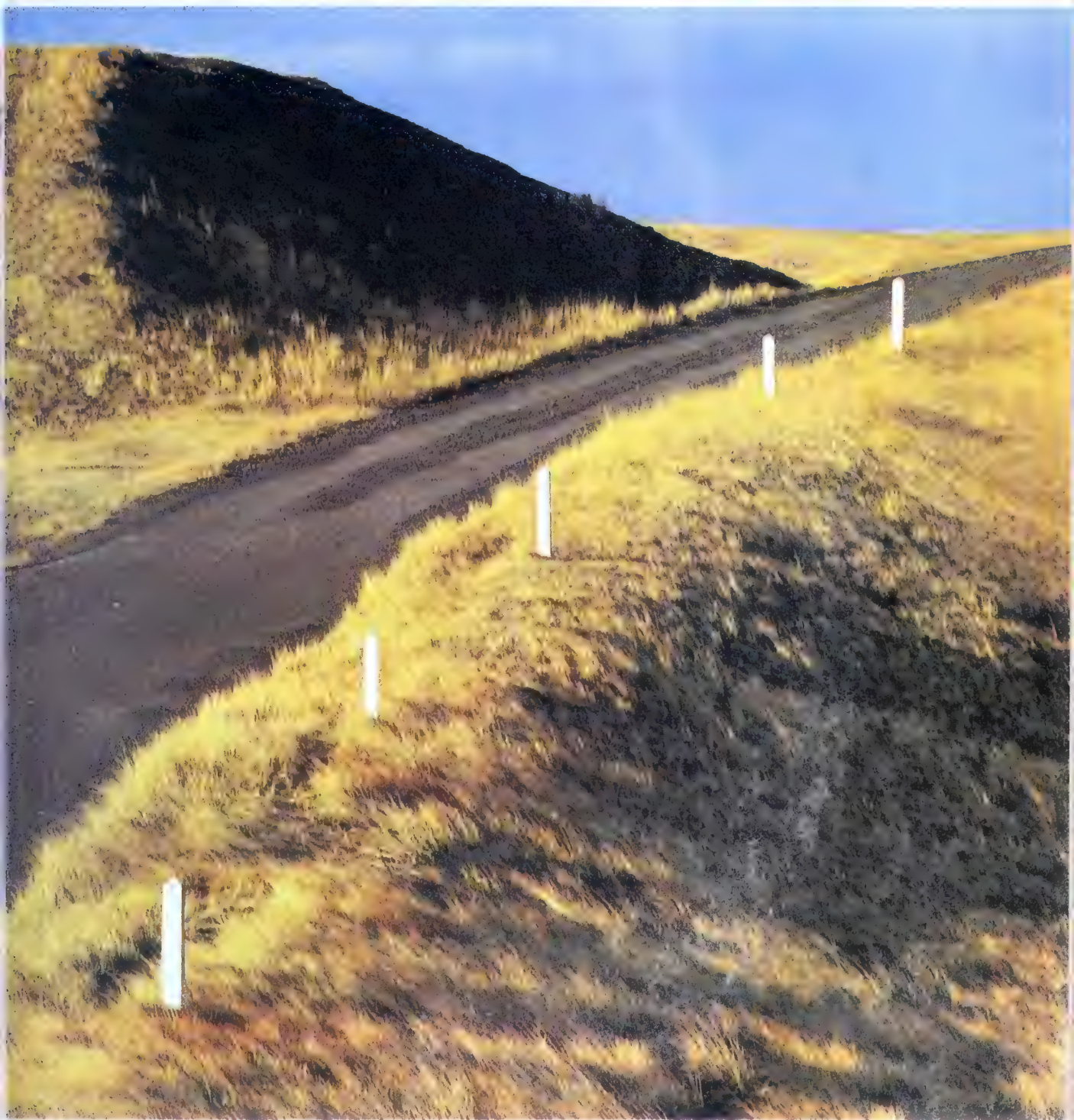
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INNOVATION

WHEN GRANDMA FIRST SAW A FRIDGE without a clumsy, noisy compressor on top, she beamed. She marveled again at the washing machine with spin dry instead of a wringer, the toaster that popped up bread browned just right. Granddad? Well, he got a car with an electric starter, tubeless tires, and a

transmission that magically selected gears on its own, sometimes at the push of a button.

No, these weren't major scientific breakthroughs—just incremental improvements. But they made life a little easier, a little better. It was called innovation.

Then something changed. The engineers in America's labs and factories started playing sec-

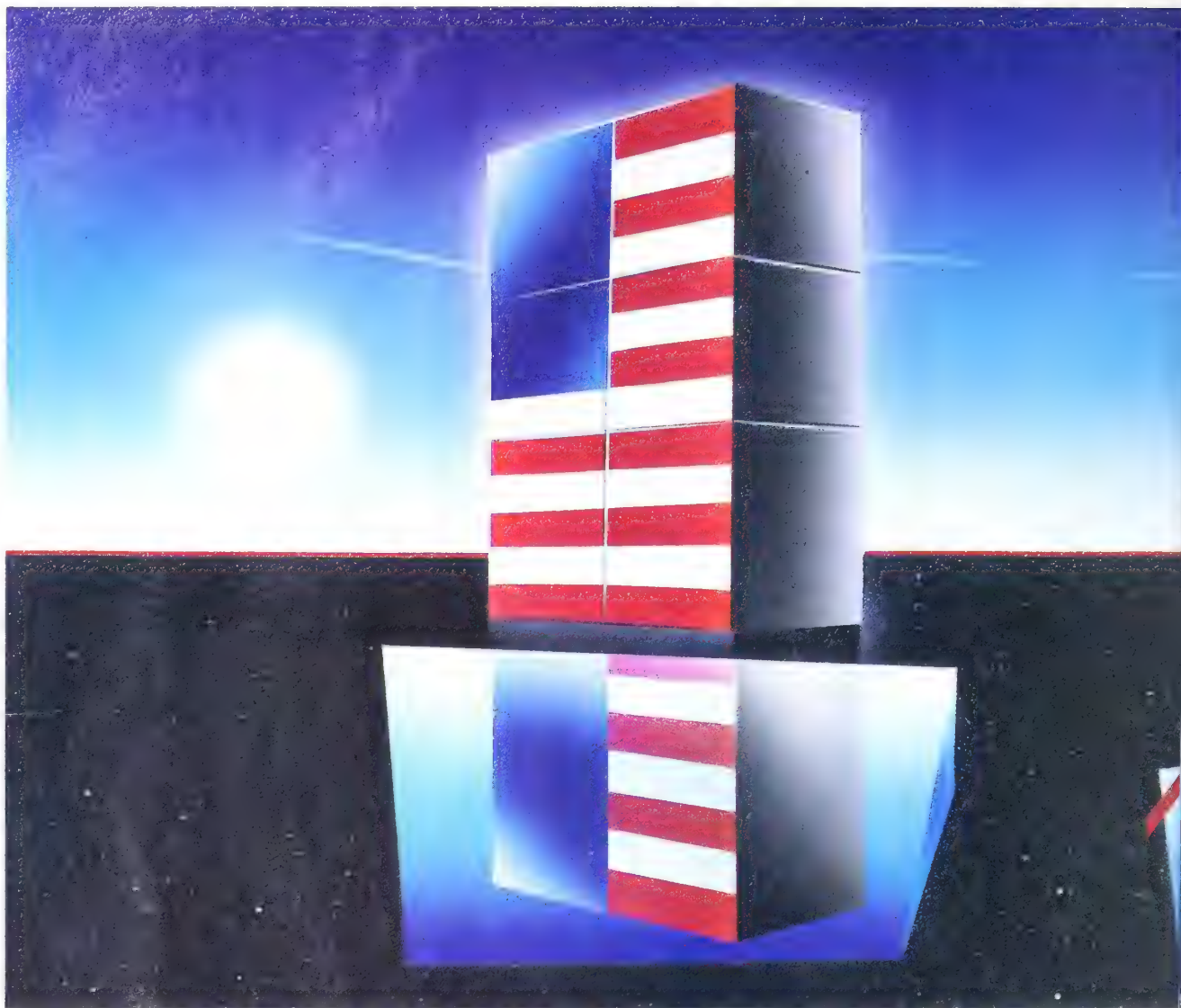


IN AMERICA

and fiddle to sales. "New, Improved" became a cliché, a buzzword of the slicksters in marketing.

It took a while for U.S. managers to realize what they had sacrificed. They chuckled when the Japanese arrived with little transistor radios. They blanched at TVs that produced vivid colors with a single cathode-ray gun. They gasped at VCRs that almost anyone could afford.

America let some big ones get away. Yet we still have the wherewithal to create. All we need is to get back to basics. We still lead the world in science and technology. What we have lost—or almost lost—is the skill to turn incremental improvements into products. As the pages ahead show, innovation in America isn't dead—it has been dormant. But it's stirring again.



BACK TO BASICS

U.S. COMPANIES FORGOT THAT INNOVATION MEANS SMALL BUT STEADY IMPROVEMENTS—NOT JUST BIG BREAKTHROUGHS. NOW THAT'S CHANGING

JAMES FALLOWS, AN AMERICAN AUTHOR living in Japan, was having a convivial beer with an English friend. After taking a long drink, Fallows' companion put down his glass and said: "Why don't you just face the fact that you're second-raters, like us?"

That question reveals just how far the U.S. has slipped in the eyes of the world. Even the British are wondering if the time has come for their former colony to pass the baton—to Japan. Incredulous at the U.S. retreat in market after market for the last two decades, other

countries have come to believe that America has lost its spirit of enterprise. Today, as Fallows notes in his new book, *More Like Us: Making America Great Again*, the phrase "lazy American" has become a cliché.

What happened to the mighty U.S. innovation machine? This is the system that invented the phonograph, the color television, the tape recorder (audio and video), the telephone, and the integrated circuit, to name a few milestone products. Yet today, U.S. producers account for only a small percentage of the U.S. market for most of those products—and an even small-



share of the world market (table, page 17).

For the past two years, the Tokyo government has been prodding companies and consumers to buy more imported goods. Purchases of European products have jumped substantially. But not American imports. The Japanese, it seems, have no more use for things stamped "Made in the USA" than Americans did for the nickknacks exported by Japan in the 1950s.

Laziness seems the only logical explanation for many people in Asia and Europe. By nearly all measures, the U.S. should be unbeatable. America has 15 million companies; no other nation comes close. It has 5.5 million scientists and engineers—double the number in Japan—and they have won more Nobel prizes than the rest of the world put together. Plus, the U.S. spends almost twice as much on research and development as Japan and Germany combined.

There's more: Students from around the globe flock here for the world's best training in advanced science, mathematics, and engineering. The U.S. remains a powerhouse of ideas and technology: California's Silicon Valley and Boston's

Route 128 serve as perennial models for other governments' thrusts into high tech. And America's venture-capital and job-generating engines are the envy of the world. "We have everything in spades—if we can just get our act together," says D. Bruce Merrifield, until recently the Assistant Secretary of Commerce for Productivity, Technology & Innovation.

But as is now painfully clear, there's more to innovation than Nobel prizes and fat R&D budgets. "The Japanese would gladly give us all the Nobel prizes," says H. John Caulfield, director of the Center for Applied Optics at the University of Alabama in Huntsville. "They're not worth a damn thing unless they're converted into products."

THE PROBLEM IS THAT MOST AMERICANS, including managers and government leaders, believe that invention and innovation are synonymous—or at least that one flows inevitably from the other. That is reflected in Washington's standard recipe for boosting innovation and competitiveness: Throw more resources into basic research and education.

But this knee-jerk response is "a devastating error," says Rustum Roy, director of the Science, Technology & Society Program at Pennsylvania State University. In April, he told a congressional committee that Japan's "awesome machine for converting new scientific discovery into marketable products is living proof of that." Roy's discouraging conclusion: The more inventive ideas the U.S. dreams up, the farther it will fall behind. Each one will be just another opportunity for a foreign rival to out-innovate a U.S. company in producing it.

So the crux of America's problem is manufacturing—translating ideas into products good enough to be sold on international markets to pay the country's import bills. "American companies don't like to build things—they like to make deals," says C. Gordon Bell, R&D vice-president of Ardent Computer Corp. and formerly with Digital Equipment Corp., where he engineered the hugely successful line of Vax minicomputers. "Our large organizations have become purchasing agents."

It wasn't always so. Before World War II, the factory was the cornerstone of American industry. But U.S. managers started to ignore manufacturing in the postwar years, when companies sold everything they could produce. The U.S. had no competition then, so the job of running the factory could safely be delegated to second-rate managers. Just keep the plant churning out widgets, they were told, and don't fix anything that works.

In that static environment, manufacturing quickly ceased to be a source of innovation. Companies began to focus all of their creative support on product designers. Those technicians knew nothing about production and therefore focused on developing brand-new products from scratch. Unfortunately, of the two main

EVERY U.S. INVENTION IS A CHANCE FOR A FOREIGN RIVAL TO OUT-INNOVATE US IN MANUFACTURING



routes to innovation, that's the less fertile one.

That kind of product innovation tends to be like a ladder, says Ralph E. Gomory, formerly IBM's chief scientist and now president of the Alfred P. Sloan Foundation. Climb, and you acquire new knowledge that confers a competitive advantage—but only until rivals join you at the top. Then you have to build a new ladder—a very slow and expensive process.

A more productive route, called process-oriented innovation, resembles the wheel in a hamster cage—a ladder wrapped into a cylinder, with no beginning and no end. Each turn of the wheel improves an existing product and its production methods. Year after year, the company unveils not-entirely-new products that keep getting better, more reliable, and cheaper. "It sounds dull," Gomory admits, but the cumulative effect can be exhilarating. It was constant cyclical refinements, for example, that took the semiconductor and computer industries from memory chips that stored 1 bit of data each to today's 4-million-bit designs.

Similarly, auto makers don't try to reinvent totally new forms of transportation every year. It was incremental innovation that replaced manual transmissions with automatics and resulted in power steering and power brakes. "The cumulation of a large number of small improvements is the surest path, in most industries, to increasing your competitive advantage," says John P. McTague, research vice-president at Ford Motor Co.

The Japanese have become masters at that. When they were preparing their assault on the U.S. market, they spotted a glaring weakness in U.S. manufacturing. Because it depended on economies of scale from long production runs, it was vulnerable to a system that could whip out a constant barrage of incrementally better

products. Even today, "we put twice the resources into product innovation as we do into process innovation," notes Arden L. Bement Jr., TRW Inc.'s vice-president of technical resources. "Japan does the opposite."

Japan's strategy was brilliant: It yanked the economic rug from under U.S. industry. It has been so successful that U.S. manufacturers still find themselves unable to compete, even with lower-cost labor. "Over half of our trade deficit now comes from foreign industries that pay their workers higher wages than we do," emphasizes Ira Magaziner, a Providence management consultant. "They don't beat us with cheap labor. They beat us with technology and skilled labor."

The results are glaringly apparent in America's balance of trade. Since 1980, the U.S. has sunk from a positive trade balance to the world's biggest debtor. And no end is in sight. DRI/McGraw-Hill Inc. projects that the trade deficit will ease just slightly in coming years, dipping from 1987's \$154 billion to "only" \$111 billion in 1995. Then, with a united Europe flexing its new-found economic muscle, the deficit could head upward again, hitting an all-time high—\$160 billion—in the year 2000. "It really threatens our future," said U.S. Trade Representative Carla A. Hills at a recent Senate hearing.

Plot almost any index of national well-being, from adult literacy to per-capita gross national product, and the U.S. trails its major competitors. Take the rates for savings and fixed investment: During the 1980s, Japan and Germany have been outstripping America by two, three, four, or five to one. Even in the bellwether area of industrial research, Japan has been progressively outspending the U.S. (as a percentage of GNP) since 1971. By 1985, the disparity had swollen to 47% (1.9% of GNP for the U.S.

INDUSTRY TODAY

IS SADDLED WITH

PEOPLE IN TOP

POSITIONS WHO

DON'T UNDERSTAND

TECHNOLOGY

ys. 2.8% for Japan). And the U. S. no longer has the world's highest per-capita GNP.

It has taken a long time, but America's leaders are finally beginning to see that manufacturing is indispensable. Several studies have detailed the reasons why, the latest being *Made in America*, conducted by the Commission on Industrial Productivity at Massachusetts Institute of Technology. It points out that the U.S. consumed roughly \$1 trillion in manufactured goods in 1987, while total exports of services that year amounted to only \$57 billion. Thus, if the U.S. imported half of its manufactured items, exports of services would have to increase nearly 10 times to pay the bills.

THAT IS HIGHLY UNLIKELY. EXPERIENCE shows that when manufacturing moves offshore, many related services soon follow, including high-value-added functions such as design and engineering. Moreover, manufacturers account for virtually all of the basic research sponsored by

industry. This generates the bulk of the technological innovation that fuels long-term economic growth, inside and outside the industries that funded the research.

Even the business schools now recognize that the U.S. cannot go on ceding markets to foreign competitors. "We've got to fight it out in the trenches," says Lester C. Thurow, dean of MIT's Sloan School of Management. "Once you start retreating, you end up retreating into oblivion."

That's quite a turnaround. After World War II, when the U.S. was unconcerned about overseas competition, Harvard and other business schools introduced portfolio theory to contend with vacillations in the domestic market. The idea was to diversify into counter-cyclical businesses so total profits wouldn't be dragged down by a slump—or intense price competition—in one market.

But diversification meant that top management could no longer be intimately familiar with all its businesses. So the schools devised various manage-by-the-numbers formulas that supposedly enabled an executive to run any business. As a result, U.S. industry today is saddled with people in important positions who

don't understand technology, notes Richard M. Cyert, president of Carnegie Mellon university.

To corporate technologists, the financial guidelines imposed by these managers seem designed mainly "to tell you why what you need to do won't pay," says Robert A. Frosch, vice-president for research at General Motors Corp.. "I'm not a big booster of the MBA analysis system," he adds.

Because the bean counters impose such high payback expectations on capital investments, research departments feel forced to swing for home runs rather than slap singles. And since the payoff from basic research rarely falls through to the bottom line in fewer than six or seven years—too long to be factored into Wall Street valuations—most companies have stopped doing it altogether.

But the top brass and Wall Street are not solely to blame. There's also the high cost of U.S. capital, says Joseph P. Martino, senior research scientist at the University of Dayton Research Institute. The difference between a



long-term interest rate of 11% in the U.S. and 4.5% in Japan, compounded for 5 to 10 years, becomes a high hurdle. "So it's easy to see why Japanese industrialists look farther ahead," says Martino. "They can afford to."

Another factor is the soaring cost of doing leading-edge research. Just to develop the next-generation chipmaking method, which will use X-rays instead of light to "print" circuit patterns on silicon, IBM is spending \$435 million, according to recently named President Jack D. Kuehler. Tack on the cost of production equip-

Back to Basics ♦

ment, and that price tag will more than double.

How many other U.S. chipmakers will be able to afford similar programs? Only a handful—five at most. Yet in Japan, 19 such projects are already under way. Suggesting that typical U.S. companies can compete on their own against the likes of Hitachi, Matsushita, Sumitomo, and Toshiba “brings only a wan smile” to anyone who knows the current state of industrial research on both sides of the Pacific, says Penn State’s Roy.

Don’t write off America as a rust-bucket

raised on a sushi diet,” quips John Zysman, co-director of the Berkeley Roundtable on the International Economy. There are standout performers in the U.S., too. The MIT productivity commission found one or two in every industry it studied. “So why don’t more companies copy what the good performers are doing?” asks commission Chairman Michael L. Dertouzos.

One reason, he says, is that it calls for a disruptive, wrenching restructuring of the entire corporation, from the very top on down. Organizing for innovation means flattening the



case just yet, however. There are signs of brighter days ahead. Harvard business school, for example, is trying to shift gears, says Thomas R. Piper, senior associate dean for educational programs. “In the past three or four years, there has been a change to where faculty are raising public-policy questions on takeovers, leveraged buyouts, and the short-term focus of management.” And the school no longer requires students to take a course in quantitative management.

Companies are struggling to do a better job of managing innovation, and more products are being designed with an eye to manufacturability. In many industries, competitors big and small are banding together into research consortiums—and pushing for changes in antitrust laws so they can collaborate on manufacturing as well. While they are asking for government support, it’s not a handout, says Robert N. Noyce, chairman of Sematech, the semiconductor consortium. If it helps the U.S. chip industry grow just 5%, he says, corporate taxes on those added revenues will repay the investment.

Size needn’t be a prerequisite for competing with Japan’s huge conglomerates. “The Germans and Italians do it well without being

hierarchy, giving more responsibility to the lower levels, and scuttling discipline-oriented departments in favor of ad hoc mission-team groups. “Forget the organizational structure we’ve used for 300 years,” says Robert L. Calahan, president of Ingersoll Engineers Inc. “Simply put together people who can get the job done, regardless of their function.” He terms it “swarming.”

So far, only a few American producers—perhaps a half-percent—are swarming to embrace such drastic overhauls. They include Motorola, Hewlett-Packard, Deere, Caterpillar, and Carrier. But it may soon become a matter of necessity as competition heats up still more.

Tearing down internal walls could also have a spinoff benefit: People accustomed to working in a free-form environment should perform better in outside collaborations, too. The upshot: Japanese style intra-company teamwork spiced with American superstar researchers and Yankee entrepreneurs. “The U.S. is extremely good at blending cooperation and individualism,” says MIT’s Dertouzos. “Look at professional sports.” So with any luck, when Technology Superbowl 2000 rolls around, Team America may be in fitter form than ever.

By Otis Port in New York, with bureau report

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OFF THAT MOST

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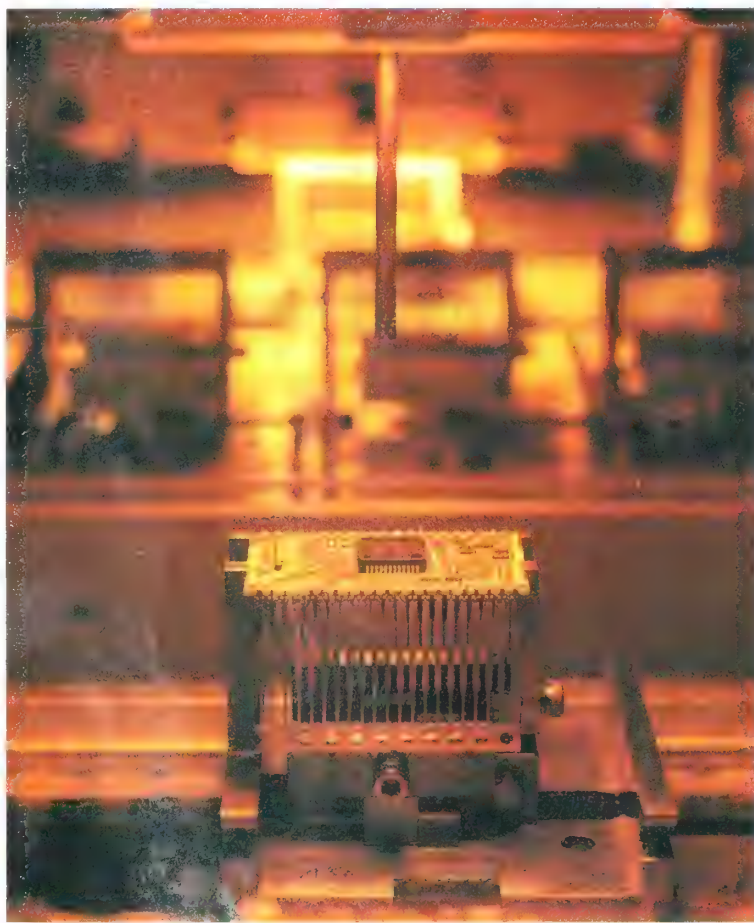


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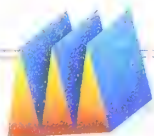
JAPAN'S GENIUS: A COMMITMENT TO 'TINY
IMPROVEMENTS IN A THOUSAND PLACES'



IN 1978, YOSHITOMI NAGAOKA HEADED A research team at Matsushita Electric Industrial Co. that was working on a better lens for projection TVs. At the time, such lenses were a clumsy conglomeration of glass elements that required 12 different machine tools to grind and assemble. Then U.S. Precision Lens Co. came out with a novel aspheric design made of plastic. Because of its sophisticated surfaces, just three lens elements did the trick. Nagaoka was shocked: "It was the ultimate in simplicity."

But the story didn't end there. Matsushita's plastic lens turned out to be ill-suited for such laser-based products as videodisk and compact-disk players. The trouble is that the plastic tends to get so hot it distorts. In videodisk

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to produce, VCR
recording heads
can now be
made cheaply
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systems, that just meant a fuzzy picture. But in optical-disk systems used to store computer data, it could result in corrupted or even lost information.

So the Matsushita team stuck to its work with glass. The promise of major new markets for consumer products based on lasers and optics was the lure, and "lenses were the bottle neck in cost and performance," says Nagaoka. Finally, in 1986, Nagaoka's team of 100 technicians, PhD scientists, and factory engineers unveiled an aspheric lens made from glass. Smaller and more precise than plastic lenses, it slashed manufacturing costs by 90%. Since then, aspheric glass is rapidly replacing plastic in lenses used in CD players—and Matsushita's design is No. 2 in the market.

In the game of innovation, Japanese-style Nagaoka's was a classic triumph. The research had modest, incremental goals: to improve a component of an already successful product. The development team was large and interdisciplinary, and the sponsor was a huge corporation with the patience to wait a decade or more to see a return on its investment. For the Japanese, innovation is "the result of tiny improvements in a thousand places," says Michiyuki Uenohara, NEC Corp.'s research director and senior vice-president.

Such piecemeal advances rarely get heralded in the press, so the whole process remains invisible to most people. Consumers take the steady march of better quality at lower prices for granted. Only other engineers appreciate the creativity behind such gradual progress. "Revolutionary breakthroughs belong to an older paradigm," says Fumio Kodama, director of the National Institute of Science & Technology Policy in Tokyo. "Today's paradigm for innovation is the fusion of different technologies, which is what Japan does best."

That's why the West continues to call the Japanese imitators. Yet for a decade or more Japanese engineers have set the pace of innovation in both low- and high-tech industries from steel and textiles to consumer electronics and semiconductor devices. "Real industrial innovation is more than scientific breakthroughs," says Moriya Uchida, an applied chemist who directs synthetics research at Teijin Ltd., a leading textile house. "It spans the search for new materials, process technology, successful manufacturing schemes, and successful marketing."

The consumer-electronics industry shows Japanese innovation at its best. Today, American homes are stuffed with entertainment systems and gadgets that have been upgraded continuously—and that keep on getting better and cheaper. In just a few years, CD players and videocassette recorders have shrunk from suitcase-size luxury items to slim commodities found in two-thirds of America's homes. And VCR prices may dip still more. Matsushita recently developed the first robot that can automatically make the intricate and expensive recording heads in VCR machines.

Whenever a new technology promises to

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Programming language	(100)								
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InfoWorld, April 10, 1989

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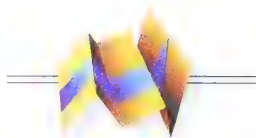
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A Wave of Ideas ◆

make things smaller and simpler—thus less expensive and more reliable—the Japanese want it yesterday. Consider so-called surface-mount technology, a method of bonding microchips directly to a printed-circuit board to eliminate the bulky housings normally used to protect the fragile slivers of silicon. The idea was first floated in the U.S., but Japan beat everyone else to market with credit-card-size calculators from Casio, automatic cameras from Minolta, and laptop computers from Toshiba.

No individual garnered fame and glory for



those coups. "We don't care where the improvement was achieved, or even who achieved it," says NEC's Uenohara. "The point is to put technology to use" to serve market needs, not the egos of researchers. Given time, such anonymous progress can culminate in products no less important than the breakthroughs so dear to U.S. companies.

To stoke such collaboration, Sony Corp. holds monthly meetings so that lab teams can present their latest work directly to top management. Sumitomo Electric Industries Ltd. com-

PATIENCE TILL THE PROMISE PAYS OFF

When Ivan L. Kinne, director of international operations at Battelle Memorial Institute in Columbus, Ohio, tried to find corporate backers for a new research project in advanced optical technology, at first he had trouble drumming up support. Only one U.S. company signed on. But when he turned to Japan to get backing, the response was overwhelming. Twenty-five companies anted up for a chance to look at the results. "The Japanese have become the technological risk-takers," says Kinne. "U.S. companies want fix-it or problem-solving technologies."

The Japanese have long been known for their ability to scour the world for technology they can turn into products back home. But increasingly, Japanese corporations—even steel companies and others looking to diversify—are outdoing their U.S. counterparts in tapping America's reservoir of budding technologies that will spawn products far in the future. On campuses from the University of California at San

Diego to Massachusetts Institute of Technology, Japanese delegations are often more common than U.S. visitors.

Independent research labs such as Battelle, SRI International, and PA Consulting all report a sharp increase in research contracted for by the Japanese. Indeed, nearly all the basic research that SRI now conducts is funded by Japanese corporations. "They are looking at research that won't become a product for 10 or 15 years," says David L. Keaton, vice-president for marketing at SRI.

At university labs, too, Japanese backers are looking ahead. U.S. companies look to the university for specific technology, says Paul E. Brown, director of the Advanced Study Program for visiting scientists at MIT. "But the Japanese have broader, longer-term objectives." And Japanese companies are willing to give their scientists

time to keep up with research in university labs.

Japanese firms hardly need a crowbar to pry open cash-strapped U.S. labs. David Sarnoff Research Center—the former RCA Corp. lab that pioneered television and videotaping—still gets \$40 million of its \$85 million budget from General Electric Co., which gave the lab to SRI after acquiring RCA. But GE is phasing down its contribution, so lab officials welcome the Japanese. "We want to go where people spend on high-tech research," says James H. Clingham, vice-president at Sarnoff.

The Japanese don't always get what they want out of

these investments. Now in the fourth year of a five-year contract for \$5 million to sponsor research at MIT's Cancer Research Institute, Ajinomoto Co. says it is disappointed with the small return it has gotten on the technology it has licensed.

But Takaaki Sato, one of three Ajinomoto scientists working at MIT, says that instead of withdrawing from the deal, Ajinomoto has simply changed its agenda. The company now wants him to study the American approach to basic research and to monitor technological development in the U.S.

Visiting University of California labs: "The Japanese have broader, longer-term objectives"

Such flexibility has paid off in the past. Nearly 10 years ago, an Ajinomoto scientist attending a U.S. conference picked up a paper on a new sweetener. He grabbed a telephone and relayed the information to Japan, and Ajinomoto rushed out a manufacturing technique that won it a process patent for making aspartame. Sato doubts that he will stumble across another coup like that. But he is keeping his eyes peeled just in case.

By Leslie Helm in Boston





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Union Pacific owns a private voice and data communications network, one of the largest in the world. Covering tens of thousands of miles nationwide and functioning as the railroad's central nervous system, it is extremely sophisticated and absolutely crucial to the company's success. Which is

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Jim Merrick of Union Pacific talks to Jay Schrimpl of Fujitsu before the Fujitsu F9600 ISDN switching system. Union Pacific recently purchased a number of such systems, the most advanced in the world, to function as node points in its nationwide communications network. For information call Fujitsu Business Communication Systems at 1-800-654-0715.

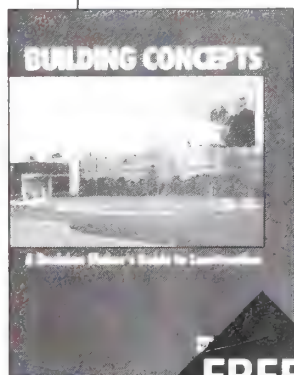
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A Wave of Ideas ◆

venes weekly sessions at which basic researchers mingle with applied engineers. "The key is interdepartmental communications," says Junichi Baba, an adviser to Mitsubishi Electric Corp. "Innovation is the product of endless in-house brainstorming."

Intercompany cooperation has also been pivotal to the rise of Japanese industry. Since 1961, the government, heeding advice from companies, has convened more than 70 research consortiums to focus on one technology or another. Probably the most famous was the Ministry of International Trade & Industry's \$200 million VLSI Project in the late 1970s. It laid the groundwork for Japan's current domination of worldwide memory-chip markets.

A similar MITI project, costing \$82 million over six years, ended in 1986 and pushed Japan to the forefront of optoelectronics, which many believe will be as important by the 21st century as electronics is now. In February, NEC announced the first 1,000-bit optical-logic chip—a crucial step toward a computer in which lightning-fast laser pulses will replace today's slower electrical signals.

Such programs have hammered home the value of cooperation to the likes of Hitachi, Fujitsu, and Matsushita. "These companies are fierce competitors," notes NEC's Uenohara. "But through joint research, even brilliant engineers learned to compromise."

Japan's penchant for teamwork may presage even more dramatic gains in coming years. Science and technology are getting too complex for any but the most outstanding inventors to make meaningful contributions on their own. More and more, even basic inventions and creative inspirations stem from group collaborations.

Already, in fact, there are signs that the Japanese are beginning to surge past the U.S. in creativity. By the early 1980s, new U.S. patents were more likely to cite prior technology in U.S. patents issued to Japanese inventors than to U.S. citizens, according to the National Science Foundation (NSF). This is a key barometer of a patent's importance. Moreover, the number of U.S. patents awarded to Japanese applicants has

been climbing steadily. In 1975, they collected only 9% of new U.S. patents; by 1987, their share had jumped to 20%.

Another indicator is the flow of patent royalties and license fees. From 1972 to 1985, U.S. receipts of royalties and fees from Japan grew at an average rate of 7% annually. But U.S. payments to Japan soared 20% a year, reports the NSF. Meanwhile, other countries have been clamoring for Japanese technology. Between 1970 and 1985, Japan's revenues from licenses nearly quadrupled, to \$721 million (in 1982 dollars).

Now, the target is basic science. Japan's new Exploratory Research for Advanced Technology Office (ERATO) sponsors long-term studies in fields that would be too expensive or too risky for private industry. Among the 12 programs that have been started is one in bioelectronics. By studying how nerve

cells process information, ERATO hopes to pin down the knowledge needed to make the ultimate in miniature "chips"—computer circuits built from bioengineered cells. Even MITI, which in the past coordinated projects with clear industrial goals, now has a program devoted to pure research. Its \$17-million-a-year Human Frontier Science Project will attempt to unlock the secrets of molecular biology.

Japan is going back to basics to balance its global books. Kenichi Fukui, a Nobel laureate

in chemistry, says Japan has a "moral obligation" to reinvest some of the profits reaped from imported technology. But even without breaking new theoretical ground, Japanese industry has advanced to the cutting edge of many disciplines, from biotechnology and ceramics to integrated circuits and supercomputers. And the new thrust in basic science seems sure to amplify the competitive pressures on U.S. companies.

There's another reason for the new interest in basic research: Manufacturing is becoming "a very science-intensive activity," says NSF Director Erich Bloch. Tomorrow's materials, microchips, and other products will be created and processed atom-by-atom. Tweaking individual atoms will open up boundless possibilities for incremental improvement. And the Japanese want to be ready.

By Neil Gross in Tokyo

Product
teams serve
market
needs—not
the egos of
researchers





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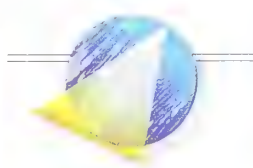
AS 1992 LOOMS, LABS AND FACTORIES ARE GETTING LEANER AND MEANER IN A HURRY

HUBERT CURIEN LEANS OVER A SLEEK black television and fiddles with the dials. In a few moments, a huge red hibiscus bursts onto the screen, and Beethoven's Ninth Symphony booms through his office in vivid stereo. "Voilà," beams France's minister of research, as he shows a visitor Europe's new high-definition television system.

Why is Curien, a physicist by training, hawking a new concept in TVs? It's symptomatic of a big change taking place in the Old World. Long noted for being fast in the labs and poky in the marketplace, Europe is doing everything it can to pick up its pace. The main strategy is to use cooperative research projects to funnel money into such promising new technologies as high-definition TV. By spending more in the right places, Europe hopes it can get back into the high-tech race with Japan and the U.S.

At the same time, the move toward a unified market by 1992 is forcing European companies to get bigger and meaner in a hurry. They're scrambling to build up critical mass in research

Belgium's Plant Genetic Systems is way ahead in bioengineering plants that are insect-resistant



through a rash of mergers and alliances. And they hope their larger home base will give them more muscle to fight foreign rivals. But Europe's bright prospects are also attracting tough new competition from U.S. and Japanese powerhouses.

Europe has plenty of strengths to fall back on. Its basic technology is good. In chemicals and pharmaceuticals, for example, Germany's Hoechst and BASF and Switzerland's Sandoz and Hoffman-La Roche are world leaders. The Netherlands' Philips, which invented compact disks, is No. 1 in TVs. In basic science, Oxford and Cambridge universities in Britain, the Pasteur Institute in France, and Max

Planck Institute in Germany are top-notch. "Is Europe technologically competitive? The answer is a resounding 'Yes,'" says John M. Marcum, a former Reagan Administration science adviser who has set up a new technology institute with offices in Paris and Verona, Italy.

Even where Europe is weak, its large companies may have the financial might to get back into the game—especially with government help. Siemens, Philips, and SGS-Thomson are trying to do that in memory chips, with some success. And Hoechst clearly has the capability to do it in genetic engineering, though German environmental legislation has held it back. "There is no area I can think of where we have to give up," says Curien.

Venture capital, a rarity five years ago, is now abundant. A few startups are nimbly keeping big companies jumping, just as U.S. startups do. Belgium's Plant Genetic Systems is way ahead of most competitors in the bioengineering of insect-resistant plants, for instance, and it's doing deals with Japanese and U.S. biggies. France's Saint-Gobain even lured a top researcher from the national labs to become its chief scientist. "The psychology has changed," says Jean Louis Beffa, chairman of the big glassmaker. "In the past, scientists weren't interested in profit-making institutions."

Still, it wasn't long ago that critics carped about "Eurosclerosis"—the hardening of the arteries that kept Europe from moving as fast as Japan or the U.S. The problems are dimming as 1992 approaches, but too many European companies are smallish, sheltered national champions that can't compete Europewide, let alone globally. Research is often duplicated from country to country. "Europe has been too fragmented," says Pasquale Pistorio, president of chipmaker SGS-Thomson. Unlike Japan, "we have not mass-produced for mass markets."

Europeans are hoping that cooperative re-

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Europe's New Hustle ♦

search can streamline their R&D. The European Commission has launched a raft of such programs, including the \$3.5 billion Esprit project in information technology, with individual companies and the EC splitting the cost. The programs bring companies and academic researchers together, often for the first time, and they promote cross-border deals.

By far the most potent of the programs is likely to be Eureka, launched in 1985. Conceived by Curien and other advisers to French President François Mitterrand, Eureka has emerged as Europe's ad hoc industrial policy in high tech. By July, nearly 300 Eureka projects will have been approved, worth about \$5 billion. Companies put up two-thirds of the money, with governments supplying the rest.

Eureka has already proven to be an effective weapon. Companies are using it to counter Japan with Europe-first standards in digital mobile phones, home automation systems, and HDTV. A few U.S. companies, such as Digital Equipment Corp. and LTV, have been invited into Eureka projects. Jack Schmuckli, head of Sony Europe, wants to apply but feels that Eureka "is designed to keep the Japanese out." He's right. "I don't see any interest in letting in Sony," says Curien.

One of Eureka's aims is to give European companies a jump start in hot new markets. Take HDTV. Philips and France's Thomson, Nos. 1 and 2 in the world in TVs, created the European HDTV standard as part of a Eureka project. The Japanese may not be able to learn the exact technical specifications of European HDTV until Philips and Thomson TVs hit store shelves. The companies also were instrumental in lobbying the U.S. government to choose a different HDTV standard from Japan's. "If the Japanese control the standard, they can overrun the market," says a Thomson executive.

Europe is also using Eureka to shore up its weak industries. While most countries are redirecting money into Eureka, not spending more, a massive new \$500-million-a-year project in computer chips is expected to be announced within the next few months. The Joint European Submicron Silicon program will encom-

pass the whole industry, from chip-makers and producers of chipmaking equipment to companies that use the chips.

For smaller national companies, the choice is adapt or die. By merging with a local rival, Danish insulin maker Novo-Nordisk now does over 10% of Denmark's industrial research. But it's still small potatoes by world standards. So Novo has built a lab in Japan and acquired a U.S. biotech company. And it's focusing on niches in biotechnology that it hopes the big players will ignore. "We're trying to be very market- and research-driven," says Novo-Nordisk President Mads Ovlisen.

Will these strategies put Europe on the comeback track? Skeptics point to Britain's \$600 million Alvey program as a cautionary tale. Designed to compete with Japan's Fifth Generation computer

project, Alvey produced some remarkable advances. But in nearly every field addressed by the program, Britain remains a has-been. One example: A \$90 million software-engineering program "has been disappointing in every way," says Peter C. Grindley, a London Business School professor who wrote a scathing report on the project. Rather than spending more to commercialize the advances, Britain is slashing funding.

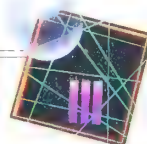
Some worry that Europe may be putting too much into the

pursuit of flashy technology. "In modern industry there's no such thing as high-tech and low-tech. You need all-tech to be competitive," says Jean-Jacques Duby, IBM's European director of science and technology.

In the end, the struggles of companies such as Saint-Gobain, Novo-Nordisk, and Siemens will likely be the decisive ones. But the broad directions set in Europe's big projects have to be right, too. "Where you're playing for such huge stakes, you had damned well better know how you're going to win," notes Robb Wilmot, co-chairman of Britain's European Silicon Structures. "If you make the wrong choices, you take the whole industry down." That's why people such as French Research Minister Curien are suddenly taking a deep interest in TVs.

By Thane Peterson in Paris with Martin Marcum in London and bureau reports

Some see
the EC's new
consortiums
as weapons
'to keep the
Japanese out'



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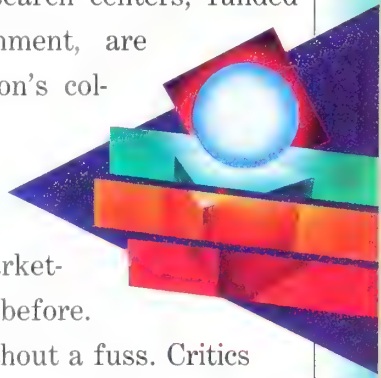


LOGICAL BASE



IN CORPORATE BOARDROOMS AND CLUTTERED university laboratories, in the hurried halls of government, the word these days is "cooperation." Companies are forming research consortiums, and scientists at universities, in government labs, and in industry are joining forces. Powerful new research centers, funded by industry and government, are springing up on the nation's college campuses.

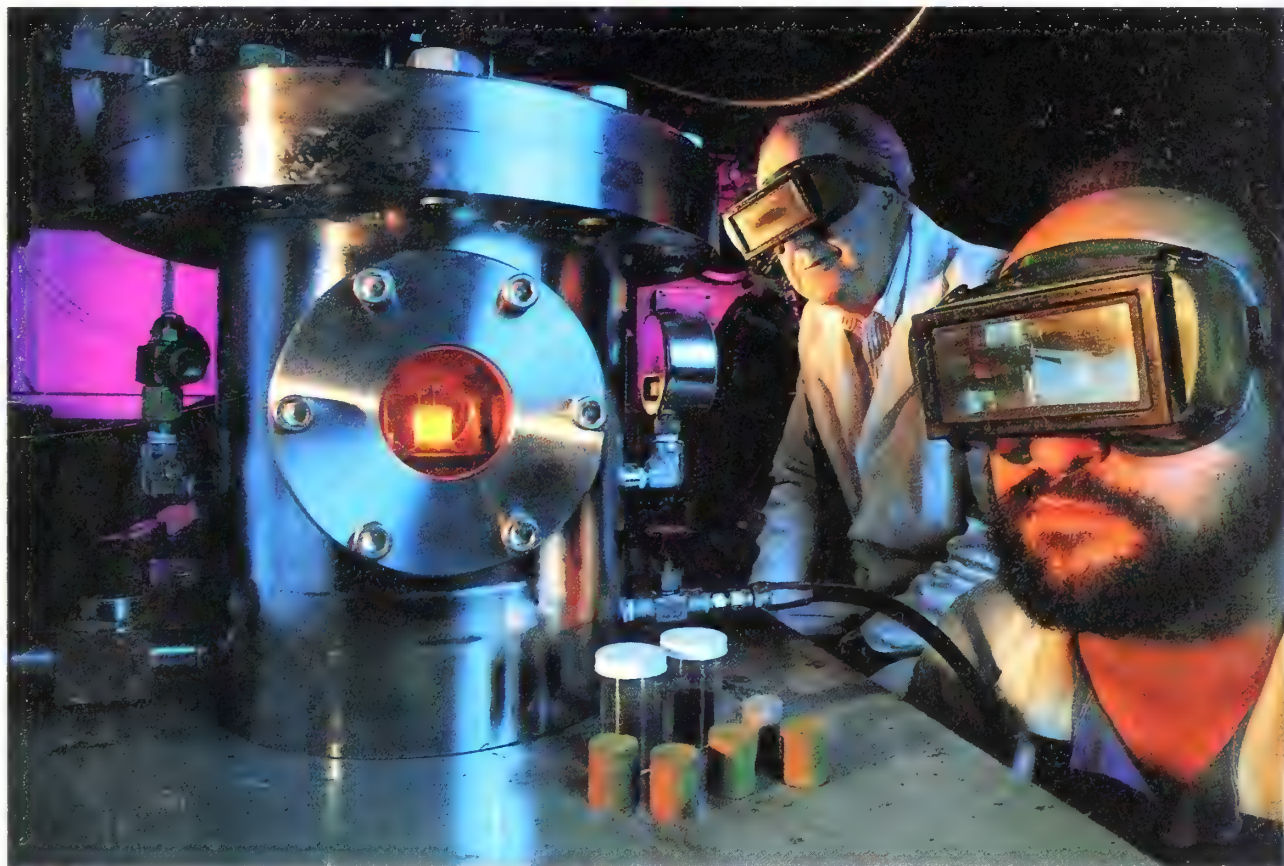
Cooperation promises to help the U. S. push its technology into the marketplace better than ever before. But it's not happening without a fuss. Critics worry that the academic pursuit of basic science will become the poor cousin of applied research and that the corporate penchant for secrecy will pinch the flow of scientific knowledge. Moreover, it remains to be seen if these consortiums will be able to give the U. S. the edge it needs to match Japan Inc.



**CAN 'COOPERATION' PUT
THE U.S. BACK ON TOP?**

WASHINGTON INC.?

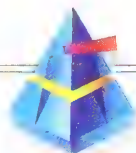
WHILE THERE'S STILL NO CLEAR-CUT POLICY, THE FEDERAL GOVERNMENT IS ACTIVELY FOSTERING TIES BETWEEN SCIENCE AND INDUSTRY



BEGINNING IN 1986, A SERIES OF extraordinary meetings took place at the Commerce Dept. in downtown Washington. Top executives from more than a dozen U.S. semiconductor companies were summoned to hatch an idea that used to be anathema at Commerce—and illegal. The topic: banding together to meet the onslaught of Japanese competition. “We got the companies together and kicked them in the shins,” recalls D. Bruce Merrifield, then Assistant Secretary of Commerce for Productivity, Technology & Innovation.

With Commerce taking the lead, the companies formed Sematech, a consortium designed to develop advanced chipmaking technology to boot the U.S. back into the lead in the international semiconductor race. Fueled by \$200 million from the Pentagon and 14 companies, Sematech is one of the most visible signs of a profound change in the way the U.S. supports technology: Washington is now actively and directly fostering industrial innovation.

**National labs
have been
encouraged
to push their
patents in the
marketplace**



In the past, the government has often focused the nation's scientific and engineering talent on specific problems. Federal dollars tamed the atom, gave birth to the computer, rocketed man to the moon, and spawned the most advanced aerospace industry in the world. Moreover, the development of the supercomputer, artificial intelligence, and advanced materials were driven by military needs and funded by the Defense Dept.

Those programs, however, rightly assumed that the U.S. industrial base was alive and well. But in the 1980s, as one critical industry after another fell to foreign competition, it became obvious that the industrial base was cracking. Suddenly, it was painfully clear that individual companies—even some of the nation's mightiest—often could not compete alone on a global scale.

While there is still no clear policy, over the past eight years Washington has gradually mounted a broad effort to emulate the cooperative successes of Japan Inc. Antitrust laws

ave been relaxed; so have laws restricting the ability of national laboratories, such as Argonne National Laboratory and Oak Ridge, to cash their technology into the private sector.

Already, scores of industrial consortiums have been created so companies can conduct joint research on common problems, from superconductors to machine tools. Now Congress may consider relaxing antitrust laws even further so companies can form consortiums that could actually manufacture a product—high-definition television (HDTV) sets. Says Representative Harris Fawell (R-Ill.): "Cooperation is one of the buzzwords for competitiveness."

Washington has created more than 30 centers at universities to marry industry with cutting-edge science. The National Science Foundation was one of the first to make a major push. Under its current director, former IBM Vice-President Erich Bloch, the NSF has set up 18 Engineering Research Centers on university campuses across the country since 1985. The idea is to use the carrot of government funding (the NSF pays approximately half the costs of each center) to lure universities into conducting research directly related to the needs of industry.

Researchers at the national laboratories are also being turned into front-line troops in the international economic battle. Far too much of the useful technology they developed for the government was just sitting on the shelf, instead of being turned into products by industry. So, Congress stepped in. The Stevenson-Wydler Technology Innovation Act of 1980 ordered the labs to pursue applications of their work, while the Federal Technology Transfer Act of 1986 allowed them to collaborate with business.

Take Dieter M. Gruen, a materials scientist at Argonne. In 1983, Gruen and two colleagues discovered a process that allows lasers of certain wavelengths to slice through materials without heating them. "It had tremendous implications," says Gruen. The result: a laser scalpel for repairing damaged eyes that was introduced last year by Summit Technology Inc. in Watertown, Mass.

Other government labs are tackling problems specifically for industry. The Commerce Dept.'s National Institute of Standards & Technology (the old National Bureau of Standards) is building a pilot version of the automated factory of the future. Earlier this year, it formed three centers at college campuses, including Rensselaer Polytechnic Institute and the University of South Carolina, to

spread the gospel to companies that could use the technology.

Fearing that weak U.S. industries threaten national security, the Pentagon is also adjusting its role. The Defense Advanced Research Projects Agency (DARPA) has long funded key studies in computers, electronics, and advanced materials. Now, DARPA is taking a larger, more public role—funding and overseeing Sematech, and awarding grants in HDTV technology. At the same time, Defense's Strategic Defense Initiative agency has moved quickly to dump seed money into new technologies, such as diamond films, that have important short-term applications for industry.

Congress may soon relax antitrust law even more, to let consortiums pursue HDTV

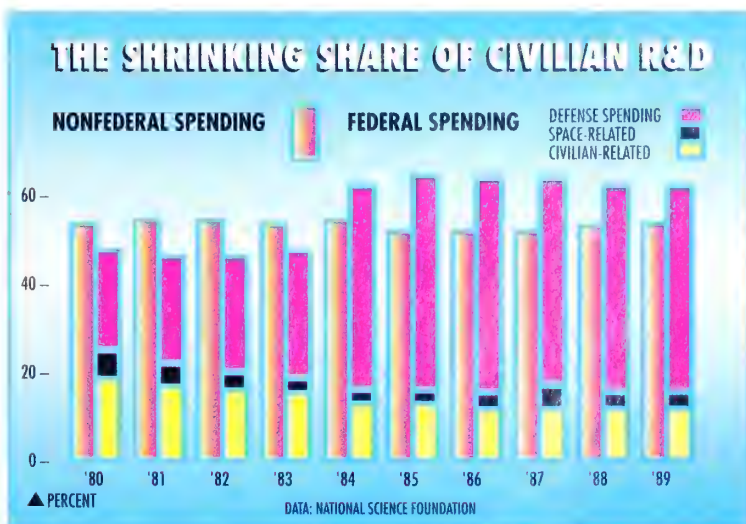
One of the most successful government programs relies on the traditional mother lode of U.S. innovation—entrepreneurial spirit. Small Business Innovation Research grants, for instance, are awarded by federal agencies to small companies with promising ideas. So far, they have nurtured hundreds of new products. Among them: a high-pressure water jet for cutting materials, a crib that soothes colicky babies, and new ceramic materials. "The program has been phenomenally successful," says Merrifield, now a consultant at the American Electronics Assn.

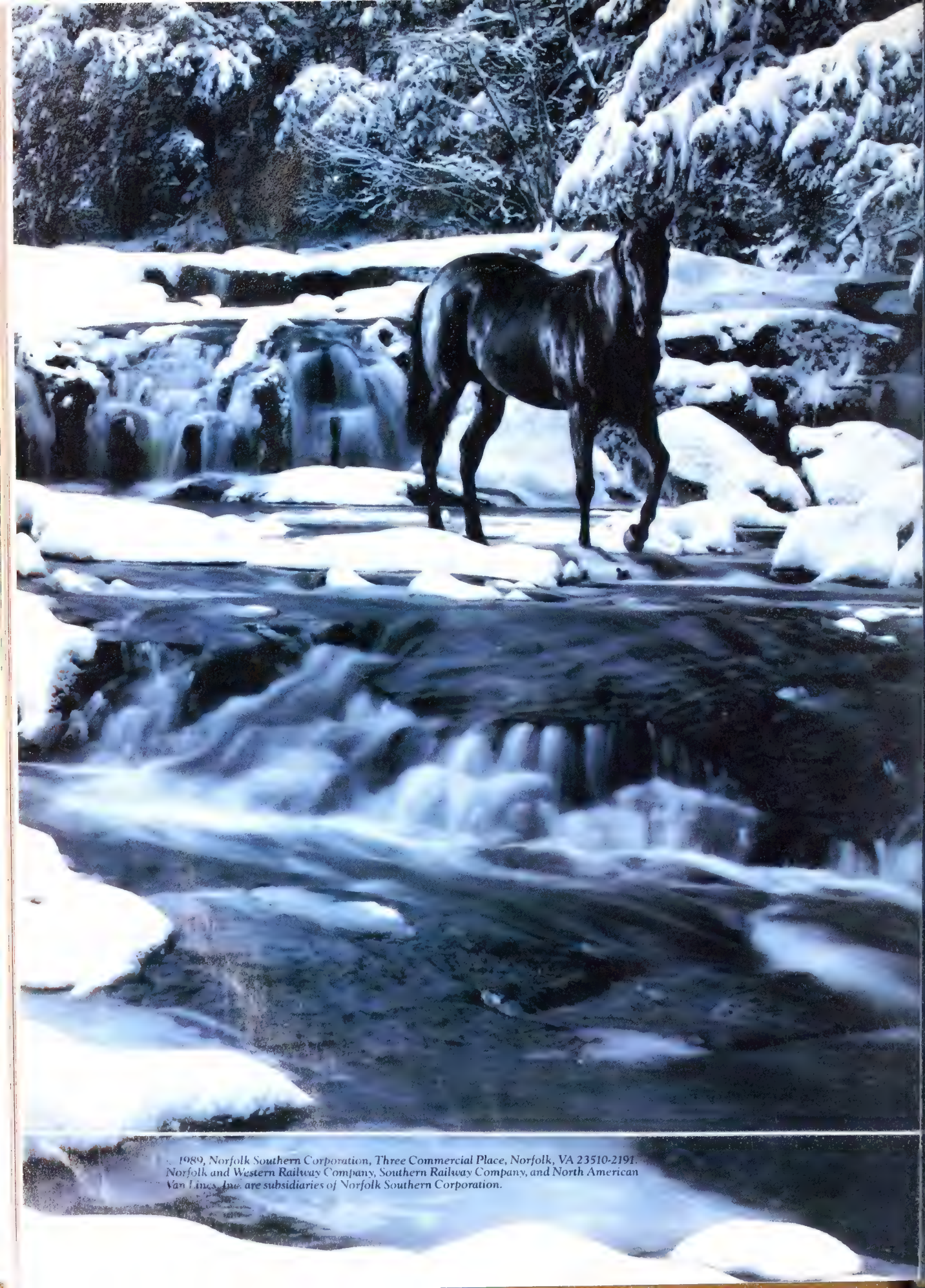
It's too soon to say that consortiums are the way to go. Although they have swept the research-and-development landscape, most are still very new, and few have borne fruit. While consortiums in Japan have clearly pushed their members to world leadership, a recent Commerce Dept. evaluation of Sematech warned that such ventures may not work smoothly in other U.S. industries because many companies don't want to share research results. "The jury is still out," says Robert A. Frosch, vice-president for research at General Motors Corp.

Most experts also believe that it's just as important to boost funds for basic research and for science and engineering education. Over the past decade, the defense-related slice of the government R&D pie has risen from 50% to more than 70%. But over the same period, military spending on basic research dropped dramatically.

Many still think the government's best role is that of hands-off gardener, sprinkling grants on fertile fields and waiting for innovation to spring forth. But the more active role has worked before. And, with U.S. industry taking a drubbing in the marketplace, similar moves may yet prove wise.

By John Carey in Washington





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MEET D. ALLAN BROMLEY

'MY RESPONSIBILITY . . . IS SOLID SCIENCE AND TECHNOLOGY INPUT'

IN APRIL, YALE UNIVERSITY PHYSICIST D. Allan Bromley, 63, was named White House science adviser, a job President George Bush elevated to Cabinet rank. The founder of the Arthur W. Wright Nuclear Structure Laboratory at Yale, Bromley is more highly regarded as a scientist than were his two predecessors in the adviser's job. Bromley has also served in a number of science-policy posts over the past decade, including president of the American Association for the Advancement of Science and member of the White House Science Council.

Last month, the new adviser discussed science and technology issues at his Yale office with BUSINESS WEEK's Washington science reporter, John Carey:

Q. Will you have the access to the Oval Office that you need to be effective?

A. I have been assured by the President that I will have direct access. It's absolutely essential that the science adviser be viewed as a member of the President's team. That is obviously something I will not abuse.

Q. You face an unusual situation because White House Chief of Staff John H. Sununu is an MIT-educated engineer. Will that present problems?

A. We both are recognized as having strong opinions, but I think that there is mutual respect. I think the chemistry will be excellent.

Q. There are a number of big science projects pending. Since the budget probably won't cover them all, how will you decide which ones to support?

A. What we're talking about more than anything else is a question of timing. What people have called megaprojects—the superconducting supercollider, the human genome map, the space station, the space plane, the compact-ignition tokamaks—wouldn't have reached this stage if a lot of people weren't actively supporting them. What has to be established is the relative priority.

Q. What about collaborating with other nations on some of these big-ticket projects?

A. We do have to address the question of whether we treat these as uniquely American

projects. Quite frankly, the luxury of going alone is perhaps no longer available to us.

Q. How much should scientists be involved in setting such priorities?

A. We in this country are already unique in the degree to which our science policy and budget are developed from the bottom up, under proposal pressure, with tremendous input from the scientific community.

But the decisions on major projects are not purely scientific ones. There are political considerations and considerations of national security and national prestige. My responsibility will be to make sure there is solid science and technology input.

Q. What are the most important issues?

A. If our economy isn't strong then we simply aren't going to be able to do all the other good things we want to do. That means, first of all, we have to find ways to really develop a partnership between research universities, the private sector and national laboratories. We also have to focus on improving the quality of science and mathematics education, not only in high school but at the grade school level as well.

Q. Why do countries like Japan seem better able to compete on a global scale?

A. We have tax laws, antitrust laws, and a whole body of legislation that was developed purely with the mindset of a national market. We've been slow to recognize that we are dealing in a global market.

Q. But you don't believe we should prevent Japan and other countries from tapping into U.S. science?

A. No. Science is public knowledge. Anything you hold close to your chest is priestly lore; it's not science. Of course, there's always the question of where the openness of basic science ends and where the specific knowhow—the competitive edge in the technology for the production of a product—takes over.

Q. Are you ready for Washington politics?

A. Having survived 30 years on an Ivy League faculty, I doubt there's much in the way of politics that I haven't encountered.



**Bromley is first
in the job of
science adviser
at Cabinet rank**



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THE POLICY ELITE

The Bush Administration faces big decisions on big-ticket science projects: the supercollider, the space plane, the human genome map, and more. Here are profiles of 12 Washington players who will be putting their spin on policy-making in science and technology.



DAVID ALLAN BROMLEY

Science Adviser to the President

Key Administration adviser

Born: 5/4/26, Westmeath, Ontario.

■ PhD in physics, University of Rochester. Career path: physicist at University of Rochester, Atomic Energy of Canada Ltd., and Yale; director of the Office of Science & Technology Policy and assistant to the President for Science & Technology in 1989. Also directs the White House Office of Science & Technology Policy. Earned a reputation as a shrewd politician while serving on the White House Science Council. Faces task of sorting out priorities in an era of tight budgets; must deal with chief of staff with strong ideas on technology.



ROBERT E. GRADY

Assoc. Dir., Office of Mgmt. & Budget

Influences science and technology budget

Born: 10/22/57, Livingston, N.J.

■ MBA, Stanford University. Career path: staffer for former Representative Millicent Fenwick (R-N.J.) and for New Jersey Governor Thomas H. Kean; speechwriter for Bush; OMB czar for natural resources, energy, and science. No science background, but wrote Bush's first major budget speech, calling for increases for science. Tells the science community it needs to lobby harder for funds, yet has been so optimistic about science faring well in upcoming budget battles that some wonder if he grasps the realities of his job.



BARBARA A. MIKULSKI

Chair, Senate appropriations subcommittee

Holds purse strings for research agencies

Born: 6/20/36, Baltimore.

■ MSW, University of Maryland. Career path: Baltimore City Council; U.S. House of Representatives (D-Md.); U.S. Senate in 1986; chair of subcommittee for HUD and independent agencies in 1988. As such, oversees NSF, NASA, and EPA, and funds HUD and the VA. Believes science and technology are directly linked to the nation's international competitiveness. Is expected to defend appropriations for her agencies aggressively. Threatens to oppose funding for science if housing funds are inadequate.



ERNEST F. HOLLINGS

Chair, Senate Committee on Commerce, Science & Transportation

Shapes sci/tech agenda in Congress

Born: 1/1/22, Charleston, S.C.

■ LL.B., University of South Carolina. Career path: Army in World War II; South Carolina House of Representatives; U.S. Senate (D-S.C.) in 1966. Chair of the Commerce, Science & Transportation Committee. Heads appropriations subcommittees that control Commerce Dept. budget. Believes technology is key to a strong defense and civilian economy. Spearheaded legislation permitting Commerce to promote technology. Advocates government funding of technologies such as HDTV.

**BOB TRAXLER**

Chair, House appropriations subcommittee

*Holds purse string for basic research**Born: 6/21/31, Kawkawlin, Mich.*

■ LL.B., Detroit College of Law. Career path: Army; county prosecutor; state representative; U.S. Representative (D-Mich.) in 1974. Chair of the appropriations subcommittee over HUD, NSF, NASA, and EPA. Pushed agricultural initiatives in the past. Is not expected to push hard in Congress for science funding. Supports an increase in the NSF budget, but is lukewarm toward the space station. Sees little hope of funding all the science and technology efforts that Bush has put in the proposed Administration budget.

**ROBERT A. ROE**

Chair, House Committee on Science, Space & Technology

*Influence over science priorities**Born: 2/28/24, Wayne, N.J.*

■ Washington State University. Career path: mayor of Wayne, N.J.; New Jersey commissioner for conservation and economic development; U.S. Representative (D-N.J.) in 1969. As chair of the House Committee on Science, Space & Technology, has a visible pulpit. Made a name pushing water projects and probing the space shuttle accident. Fought for the proposed doubling of the NSF budget. Plans legislation to help industry hold key markets, such as supercomputers. Could exercise greater influence.

**ERICH BLOCH**

Director, National Science Foundation

*Directs the important basic research agency**Born: 1/9/25, Sulzburg, West Germany.*

■ BS in electrical engineering, University of Buffalo. Career path: 22 years at IBM—from engineer to vice-president; NSF director in 1984. This visible, powerful, and controversial director persuaded Congress to increase the agency's budget to \$1.8 billion in fiscal 1989. Wants further funding boosts this year. Changed NSF's direction by adding technology—and collaborations with industry—to the agency's mission of supporting basic scientific research. Respected by the Administration and Congress. Tough and abrasive.

**ROBERT M. WHITE**

President, Nat. Academy of Engineering

*Influences Congress on technology policy**Born: 2/13/23, Boston.*

■ PhD in meteorology, Massachusetts Institute of Technology. Career path: meteorologist at MIT; chief of weather bureau at NOAA; president in 1983 of the National Academy of Engineering, a 1,300-member sister organization of the National Academy of Sciences. Is gradually gaining influence as Congress looks more to technology and engineering to solve problems of U.S. industrial competitiveness. Supports funding more applied science, warning: "We fiddle while our engineering and technology base burns."

**FRANK PRESS**

President, National Academy of Sciences

*Influences government on science policy**Born: 12/4/24, Brooklyn, N.Y.*

■ PhD in geophysics, Columbia University. Career path: professor of geophysics at Columbia, California Institute of Technology, and MIT; science adviser to President Carter; president of the National Academy of Sciences in 1981. Under Press, reports and testimony from the Academy's 1,573 elected members are increasingly used to direct science policy. Its recommendations, however, tend to be conservative. He has suggested that scientists should help set priorities in science. Advocates doubling U.S. spending on R&D.

**JOHN A. YOUNG**

President, Hewlett-Packard Co.

*Influential industry voice on policy**Born: 4/24/32, Nampa, Idaho.*

■ MBA, Stanford University. Career path: Joined HP in 1958, president in 1977, CEO in 1978; chair of President's Commission on Industrial Competitiveness in 1983. Founded the privately funded Council on Competitiveness, whose positions became the basis for Bush's science and technology plank. Has stumped for permanent R&D tax credits, for grants or loans for technical professorships, and for doubling the NSF budget. Lobbied for raising status of Science Adviser to Cabinet level. A frequent voice at Congressional hearings.

**RALPH E. GOMORY**

President, Alfred P. Sloan Foundation

*Respected industry voice on R&D issues**Born: 5/7/29, Brooklyn, N.Y.*

■ PhD in mathematics, Princeton University. Career path: 20 years at IBM, director of research in 1970, senior vice-president for science and technology in 1986; president of the Sloan Foundation in 1989. Chaired Presidential advisory committee recommending consortiums develop high-temperature superconductors. Instrumental in creating the superconductivity consortium formed recently by MIT, AT&T, and IBM. Believes product development and manufacturing in industry, not research, is key to competitiveness.

**ROBERT M. ROSENZWEIG**

President, Assn. of American Universities

*Speaks for universities on science issues**Born: 8/27/31, Detroit.*

■ PhD in political science, Yale University. Career path: instructor, dean, vice-president at Stanford; AAU president since 1983. Represents the interests of 56 powerful research universities that receive 60% of federal research funds for all universities. Is a strong presence in Washington because of the universities' clout. Now lobbying Congress for money for bricks and mortar. Is concerned that the rapid deterioration of university buildings and research facilities is putting the U.S. research enterprise in danger.

BUSINESS GOES TO COLLEGE

AS GOVERNMENT FUNDS TAPER OFF,
COMPANIES ARE BACKING UNIVERSITY LABS

IT'S SPRING IN ITHACA, N. Y., AND STUDENTS at Cornell University are playing soccer and lolling on the grass of Upper Alumni Field. In a tunnel beneath their feet, high-energy electrons are zipping around a circular nuclear accelerator that spews out a powerful beam of X-rays. Scientists from Cornell and such companies as Exxon, Eastman Kodak, and Merck use that "synchrotron light" for a variety of experiments, from cleaning up fuels to looking at the structure of transistors.

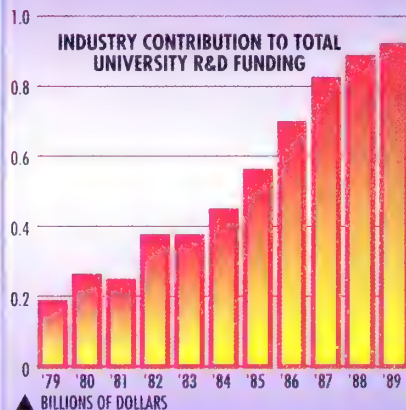
formed by a new partnership with industry. Cooperative research centers, incubator parks, and other ventures are bringing top schools a flood of research dollars. Last year, industry kicked in \$850 million to U.S. universities, up from \$293 million in 1981. The influx has made "the research enterprise far more vigorous than it was 10 years ago and more sensitive to the needs of society than at any other time since 1940," says Roger L. Geiger, an associate professor of education at Pennsylvania State University.

Although corporate cash contributes a small percentage of universities' research budgets—only 6.6% of the \$13 billion that universities spend each year—the money is by no means evenly distributed. Some 30 of the top engineering and technical schools corner half the funds, so the impact at those schools is significant. At Carnegie Mellon university in Pittsburgh, for example, Westinghouse Electric Corp., IBM, and other companies now account for almost 25% of the school's R&D funding. And corporate money helped buy Texas A&M University a new Institute for Biosciences & Technology.

It's hardly the first time that top science and



INDUSTRY'S GROWING PRESENCE ON CAMPUS

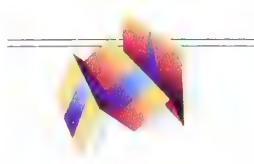


At the end of the field, a new \$32.5 million building houses the university's biotechnology research. Since 1983, Eastman Kodak, General Foods, Corning Glass Works, and others have pumped \$7.5 million of research funds into projects under way there.

Not far away, there's the Center for Theory & Simulation in Science & Engineering, one of five national supercomputer centers. IBM has already kicked in \$47.5 million in computers and support. Some 13 corporations, including General Electric Co. and Ford Motor Co., regularly use the center. Cornell also hosts the nation's largest materials-research center and a National Nanofabrication Facility aimed at producing tiny structures for tomorrow's computer chips—and industry pays to use them.

In just a decade, Cornell and the other leading research universities have been trans-

**Corporate funds
at Texas A&M
helped pay for
equipment to
manipulate the
embryos of mice**



engineering schools have altered their course for funding. Until 1940, the federal government supported almost no university research except in agriculture. But during and after World War II, universities received huge amounts of government money for directed defense-related projects. Then, after Sputnik was launched in 1957, the government plowed money into bricks and mortar, fellowships to train more scientists, and basic research.

With the government supporting academic science, what industry money there was soon dried up. Even so, the universities stayed flush until the 1970s, when government support didn't keep pace with inflation. To cope with their aging facilities, cash-strapped schools turned to industry, with the government acting as matchmaker. Now, many schools, including Penn State, Massachusetts Institute of Tech-



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BusinessWeek Travel Facts

DID YOU KNOW? Business Week's next Steve Birnbaum edited Frequent Traveler Section is scheduled for the October 30, 1989 issue. Closing is September 18. For more information call your Business Week Representative or John Holden at (212) 512-6394.

Business Goes to College ♦

nology, and Carnegie Mellon are churning out technology aimed at the needs of industry.

The coziness with industry has its perils. School officials are wrestling with a conflict between academic freedom—to pursue basic research and to publish—and the priorities of industry: privacy, patent protection, and research results companies can use. But the issues are hardly insurmountable.

Take the research partnership between Washington University in St. Louis and Monsanto Co. Since 1982, Monsanto has invested \$65 million in biomedical research at the school. A joint company-university committee makes grants to researchers to make sure the missions of both are met. Is it working? The agreement has generated over 35 patents and Monsanto has two potential drugs in testing. "The best indication," says Edward L. MacCordy, associate vice-chancellor for research, "is that we both continue."

WASHINGTON UNIVERSITY AND A handful of other schools have even gone a step further. They are setting up venture-capital operations on their campuses. These, too, are controversial. Boston University, for one, has recently been shopping for a partner so that a nearly broke biotechnology company the school helped set up, Seragen Inc., can get an experimental cancer drug to the market. BU has plowed \$47 million into the company. But others have had more luck. Washington University's venture fund, for example, has spun out two promising medical device companies.

While the presence of business on campus is helping some schools immensely, it's clear that continued government funding of the nation's universities is critical. Since it is mainly the leading schools that are profiting from industry collaboration, there is a danger of creating a university system of haves and have-nots in science and technology. That could jeopardize the training of new science and technical professionals. D. Allan Bromley, President Bush's new science adviser, estimates that it will take \$10 billion to upgrade outdated university science facilities.

But most experts believe that the benefits of the new relationship between academe and the boardroom outweigh the risks. "Universities can influence and accelerate the innovation cycle," says Angel G. Jordan, provost of Carnegie Mellon. Right now, that certainly can't hurt.

By Naomi Freundlich in New York, with bureau reports

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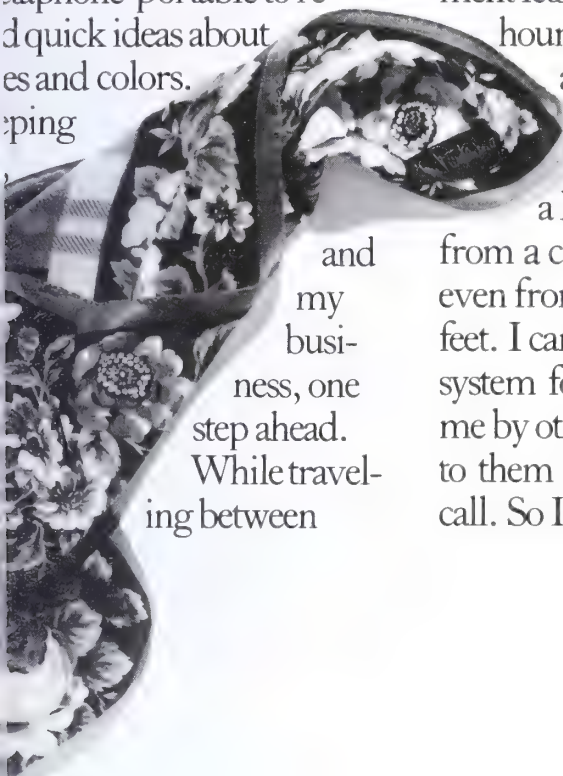
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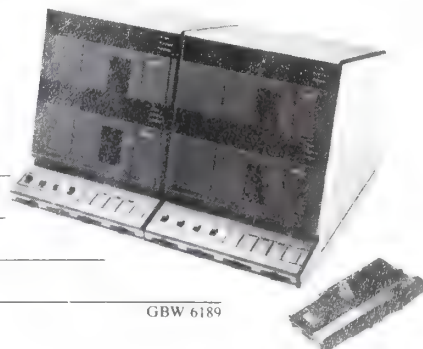
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THE ACADEMIC ELITE

Last year, industry kicked in \$850 million to U.S. universities, up from \$298 million in 1981. A few dozen top institutions, however, have cornered the lion's share of the funds. These 12 schools have attracted the most industry dollars for research.



MASSACHUSETTS INST. OF TECH. Cambridge, Mass.

Industry funding: \$35 million

Industry's share of school's R&D funds: 13.3%

PhDs conferred in science or engineering: 212

■ MIT is a trendsetter in engineering, engineering education, and cooperative industry-university research. It sports 40 interdisciplinary labs in such fields as artificial intelligence, cancer research, space science, and communications. In the past 50 years, it has churned out an impressive array of new technology, including radar, inertial-guidance systems, and LISP, a computer language used to write artificial-intelligence programs. MIT has eight Nobel laureates on the faculty; nine alumni are also winners. It owns 900 patents.



GEORGIA INST. OF TECH. Atlanta

Industry funding: \$24 million

Industry's share of school's R&D funds: 20%

PhDs conferred in science or engineering: 93

■ Just 15 years ago, this school spent only \$10 million a year on research. This year, the budget tops \$145 million. Its Microelectronics Research Center raised \$17 million from industry. Other centers focus on manufacturing, computational mechanics, and nuclear fusion. The campus also hosts 15 industry consortiums exploring such topics as zeolite chemistry, for refiners seeking new catalysts, and materials handling, for which 28 firms each cough up \$40,000 annually for automation and processing technology.



PENNSYLVANIA STATE UNIV. State College, Pa.

Industry funding: \$20 million

Industry's share of school's R&D funds: 12%

PhDs conferred in science or engineering: 253

■ Penn State is a powerhouse in earth and mineral sciences—geoscience, geography, mining engineering, and meteorology. It's also in the forefront in advanced materials research—particularly electronic ceramic materials. It's the nation's leading center for research on diamond films, which promise superhard coatings and electronic circuits that can withstand high temperatures. NASA is a big contributor, supporting three multimillion dollar centers studying propulsion systems and the effects of living in space.



UNIV. OF WASHINGTON Seattle

Industry funding: \$18.6 million

Industry's share of school's R&D funds: 10%

PhDs conferred in science or engineering: 277

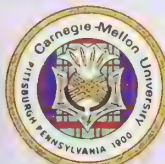
■ The University of Washington made its name in medical technology, pioneering the development of dialysis for kidney failure. This year, the university expects to hit \$1 million in royalty income from 40 patents, and 50 more are pending. Its big winners: patents covering a hepatitis B vaccine and a probe that's the treatment of choice for bleeding ulcers; both are licensed to Merck & Co. The state-funded Washington Technology Center promotes on-campus research in support of local high-tech industries.

**CORNELL UNIV.**

Ithaca, N. Y.

*Industry funding: \$17 million**Industry's share of school's R&D funds: 7%**PhDs conferred in science or engineering: 365*

■ A star in agricultural studies, Cornell has also recently become a hub of cooperative, high-tech research. It's home to six national research centers—more than any other university. Included: a National Nanofabrication Facility, an electron-positron storage ring, a supercomputing center, and the largest materials-science center funded by the National Science Foundation. Microscopic transistors, high-temperature superconductors, and life-like computer graphics are among the developments moving out of these labs.

**CARNEGIE MELLON**

Pittsburgh

*Industry funding: \$16 million**Industry's share of school's R&D funds: 19%**PhDs conferred in science or engineering: 117*

■ Hosting more than 20 interdisciplinary research centers, CM is a leader in computer science and robotics. Westinghouse Electric Corp. was the original supporter of the decade-old Robotics Institute, but funding has swelled to \$10 million as other companies and government agencies have kicked in. CM's computer-science department pioneered research in artificial intelligence and parallel processing. In 1984, CM won a grant from the Defense Dept. to set up a \$103 million Software Engineering Institute.

**UNIV. OF MICHIGAN**

Ann Arbor, Mich.

*Industry funding: \$14.4 million**Industry's share of school's R&D funds: 6.4%**PhDs conferred in science or engineering: 217*

■ Medical studies grab a third of total science and engineering funds, and aggressive recruiting has attracted research stars. One notable result: UM scientists led early clinical testing of the blood-clot-busting drug TPA. The university is the traffic center for data pouring out of six national supercomputing centers. It has longstanding ties to local industry: the Big Three carmakers and Dow Chemical Co. Chrysler Corp. is helping to fund research on "smart fluids" that change viscosity in response to an electric current.

**UNIV. OF CALIFORNIA (UCLA)**

Los Angeles

*Industry funding: \$14.4 million**Industry's share of school's R&D funds: 7.6%**PhDs conferred in science or engineering: 362*

■ Once revered as the mecca of collegiate basketball, UCLA has become almost as well known for the exploits of its scientists. The school of medicine receives top funding from private and federal sources, and it has built enviable expertise in AIDS research. Its lithotripter, which uses shock waves to blast away kidney stones, and a method for inducing bone formation are just two inventions to come out of UCLA recently. The Brain Research Institute is breaking new ground in imaging and in the treatment of epilepsy.

**TEXAS A&M UNIV.**

College Station, Tex.

*Industry funding: \$13.4 million**Industry's share of school's R&D funds: 6%**PhDs conferred in science or engineering: 291*

■ Texas A&M, long known for its military-style corps of cadets, has now catapulted itself into the forefront of research universities. It has spent \$34 million over the past two years on new equipment and facilities. Last year's research funds nearly doubled the 1982 expenditure. And much of the increase has come from federal sources: NSF's ocean-drilling project, which studies earth-core samples, brings in \$30 million annually. The university broke ground last year on an Institute for Biosciences & Technology.

**WASHINGTON UNIV.**

St. Louis

*Industry funding: \$12 million**Industry's share of school's R&D funds: 12%**PhDs conferred in science or engineering: 102*

■ Washington University is a leader in biological sciences, especially biotechnology. The first genetically engineered tomato plant with virus resistance came out of these labs, and researchers are working on a vaccine to make animals resistant to salmonella. The well-respected medical school is developing a promising biotech drug to control high blood pressure. The university also houses an NSF-funded National Facility for Nuclear Magnetic Resonance. Monsanto Co. is the BMOC here, kicking in \$62 million so far.

**NORTH CAROLINA STATE UNIV.**

Raleigh, N. C.

*Industry funding: \$12 million**Industry's share of school's R&D funds: 12%**PhDs conferred in science or engineering: 210*

■ This land-grant university has programs in engineering, textiles, forestry, and agriculture. It was the first to build and operate a nuclear reactor for educational purposes and to offer nuclear-engineering degrees. The first synthetic aorta was developed at its textile school, the nation's largest, and its foresters conduct important acid-rain research. NCSU has NSF centers in communications, food processing, and electronic materials. Recent breakthrough: a process for making thin films of high-temperature superconductors.

**UNIV. OF ARIZONA**

Tucson

*Industry funding: \$11.6 million**Industry's share of school's R&D funds: 8.4%**PhDs conferred in science or engineering: 219*

■ Arizona leads in optical science, materials science, and medicine. Two optics consortiums are exploring optical-data storage and computing. In materials science, it's a leader in creating made-to-order metals with properties not found in nature. One example: ceramics with the strength of steel. Astronomy is also a major focus: Arizona researchers have a new process for making huge but lightweight mirrors for long-range telescopes. Plus, medical researchers are working with Toshiba Corp. to develop filmless X-rays.

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SPREADING THE RISKS OF R&D

CONSORTIUMS, UNIVERSITY DEALS, AND CO-VENTURES HELP COMPANIES COMPETE

WILLIAM V. BRAUN HAS ONE TOUGH JOB. As R&D director at Motorola Inc., the only U.S. company still among the top five chipmakers worldwide, he needs to match the alacrity with which the Japanese introduce new technology, race through product cycles, and improve their production processes. At the same time, he has to keep Motorola forging ahead to the next generation of chips, which cost gargantuan sums to develop.

But Braun's \$750 million R&D budget can't pay all those bills, so he's looking outside for help. Motorola has joined the semiconductor R&D consortium, Sematech, and is jointly designing products with customers, including a 32-bit microprocessor that it introduced this

Kodak's lab in Japan is among 137 that are U.S.-owned or U.S.-controlled

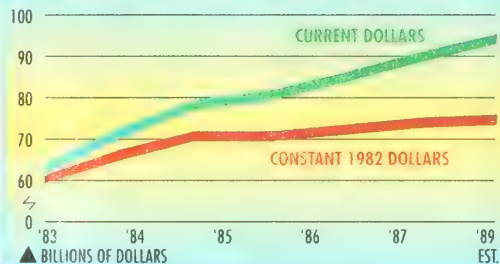
year with General Motors Corp.'s Delco Electronics Corp. Two years ago, Motorola became the first U.S. chipmaker to team up with a Japanese rival: With Toshiba Corp., it has a plant outside Tokyo that produces dynamic random-access memory chips and microprocessors.

Motorola isn't alone in its effort to reshape the way it goes about R&D. In a frantic drive to keep up with foreign competition, U.S. companies are tying their R&D labs more closely to business units—and business plans—to speed up product development. In search of new technology at a price they can afford, they're stepping outside to participate in new research arrangements. These days, consortiums, university partnerships, international efforts, and joint ventures are all widely used weapons in the arsenal of corporate R&D strategies.

Even industry behemoths like IBM, Ford Motor, and American Telephone & Telegraph can no longer afford to be self-sufficient. Last year, the companies included in BUSINESS WEEK's R&D Scoreboard spent \$59.4 billion on R&D (page 176), up 11% from the year before. But the price tag of ever-more-complex technology is rising at a relentless pace. Developments such as high-temperature superconductors "constantly surface, but are beyond the capacities of even IBM to develop alone," says D. Bruce Merrifield, former assistant secretary for technology at the Commerce Dept.

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R&D SPENDING BY U.S. FIRMS IS UP



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Spreading the Risks ♦

Co. set up its first corporate laboratory—in a barn on the banks of the Erie Canal. And until World War II, corporate R&D labs were relatively simple organizations; one laboratory conducted research for several manufacturing areas. But industrial labs expanded rapidly after the war, pumped up by military-inspired advances in nuclear energy, electronics, and manufacturing. The great industrial R&D labs at such companies as GE, IBM, AT&T, Westinghouse Electric, and RCA spewed out products from television to computers.

By the late 1970s, the salad days were over as Japan began usurping market after market. Recession and a drop in government R&D funding pinched budgets just as whole new fields such as biotechnology and microprocessors burst on the scene. A recent wave of corporate belt-tightening forced executives to look at shorter and shorter horizons, squeeze budgets, pare operations, and harness R&D to support existing businesses. At Westinghouse, R&D has been cut so much that the company recently offered its neighbor, Carnegie Mellon university, unused space in its labs.

To stretch their slim R&D budgets, companies are learning that they must overcome "the natural cultural reluctance" to band together, says Robert P. Caren, corporate vice-president for science and technology at Lockheed Corp.

Dozens of consortiums are churning out production processes, product improvements, and new technologies. A study of semiconductor manufacturers conducted by the Center for Science & Technology Policy at Rensselaer Polytechnic Institute (RPI) found they were spending an average of 35% of their research budgets on technical alliances.

Collaborations don't solve all the problems, however. By trying to become "leaner and meaner," companies are putting intense pressure on their corporate R&D units to get "optimum results in each area, which takes away from big projects," says Herbert I. Fushfeld, director of the RPI center. As a result, many companies have dropped long-term basic research. The short-term focus "is a very real problem with innovation in this country," says Ian M. Ross, president of AT&T Bell Laboratories.

Take Eastman Kodak Co. In 1983, its research group was decentralized to serve six key business units. Since then, overall R&D funding has dropped from a high of 9.2% of sales in 1986 to 7% last year. Long-term research efforts were abandoned or drastically reduced. Among the victims: photoresists for printing circuits on semiconductors and the development of new magnetic recording technology.

Instead of plying the unknown on their own, some companies, including Digital Equipment, IBM, Monsanto, and Hewlett-Packard, have become adept at mining universities for their basic knowledge. Digital Equipment Corp., for instance, confines most of its own R&D to applied work, while an extensive web of university arrangements, including contracts with 100 of them, supplies the fundamental research. But others are

becoming disenchanted with such arrangements, says Richard M. Cyert, Carnegie Mellon's president. Trouble comes when companies have unrealistic expectations for short-term gains or treat the deals as a passive investment. "The right way to do cooperative research is to view it as a joint venture," he says.

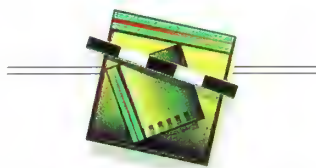
Increasingly, R&D in larger companies is following the manufacturing operations abroad. Japan's Ministry of International Trade & Industry (MITI) says there are 137 labs in Japan that

are U.S.-owned or U.S.-controlled. Companies such as Eastman Kodak are internationalizing their R&D both to create freestanding foreign subsidiaries and to repatriate technology that does not exist in the U.S. Since overseas labs are expensive, other U.S. companies are teaming up with foreign outfits. Union Carbide, which already owns laboratories in Europe and Hong Kong, is actively searching out foreign R&D partners.

For the most part, experts see the new climate of cooperation as a positive step—but only if it's not a substitute for real commitment to developing new technology for the long haul. The danger is that, in its zeal to stay competitive today, Corporate America could abdicate the ground-breaking research that lays the foundation for future winners.

By Naomi Freundlich in New York, with bureau reports

A red flag:
Too much
applied
research
is undermining
the long term



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THE R&D ELITE

Corporations are reshaping the way they do research, in part because the price tag of technology is rising so relentlessly. Here are the R&D directors of the 12 U.S. companies with the biggest R&D budgets—in all, close to 40% of all U.S. industrial R&D.



GENERAL MOTORS CORP.

Robert A. Frosch, v-p for research

Warren, Mich.

R&D budget: \$4.8 billion

■ Born: 5/22/28, New York City. PhD in theoretical physics, Columbia University. Career path: researcher, R&D director. Running GM's labs is the first industry job of the former DARPA director, Navy R&D head, and UN official. Since being named research director in 1982, Frosch has worked hard to improve plant efficiency. The role of R&D, he believes, is to "sit around and think up ways the automobile might be made obsolete—before the other guy does." Biggest battle: "Convincing people it's worth taking a risk on change."



IBM

John A. Armstrong, v-p

Yorktown Heights, N.Y.

R&D budget: \$4.4 billion

■ Born: 7/1/34, Schenectady, N.Y. PhD in physics, Harvard University. Career path: research, management. Conducted laser and optics research at Harvard, was director of physical sciences at IBM, and managed a cutting-edge semiconductor group. Became research director in 1986. Directs research at 35 development centers and labs in New York, California, Switzerland, and Japan. IBM researchers have won two Nobel prizes in the past three years, even though IBM funding for research unrelated to immediate needs is small.



FORD MOTOR CO.

John P. McTague, v-p for research

Dearborn, Mich.

R&D budget: \$2.93 billion

■ Born: 11/28/38, Jersey City, N.J.; PhD in physical chemistry, Brown University. Career path: research, management. Was hired as vice-president for research in 1986, after serving as acting Science Adviser to President Reagan. Views his government experience as "a help at this time in Ford's history." Achievements: flexible-fuel vehicles and neural-network automobile diagnostic systems. Believes that accumulating small improvements in products and processes is the surest path to competitive advantage.



AT&T

Ian M. Ross, president, AT&T Bell Labs

Holmdel, N.J.

R&D budget: \$2.6 billion

■ Born: 8/15/27, Southport, England. PhD in electrical engineering, Cambridge University. Career path: research, management. Director of Bell Labs since 1979, Ross's task was keeping it together after AT&T's breakup. Is determined to keep Bell Labs on the leading edge in semiconductors, photonics, and software. Stresses his commitment to long-term research. Achievements: advanced digital switches and optical fiber cables. Says Ross: "We can probably do more than the customer knows how to absorb."

**DU PONT CO.**

Alexander MacLachlan, sr. v-p for technology
Wilmington, Del.

R&D budget: \$1.32 billion

■ Born: 1/22/33, Boston.

PhD in physical organic chemistry, Massachusetts Institute of Technology. Career path: research, marketing, management. At Du Pont since 1957, MacLachlan became R&D director in 1985. Has built up biotech research. Is pushing for development of high-temperature superconductors and substitutes for ozone-depleting chlorofluorocarbons. Current challenge: Promoting synergy among diverse researchers in chemicals, fibers, electronic materials, agricultural products, and pharmaceuticals.

**DIGITAL EQUIPMENT CORP.**

Samuel H. Fuller, v-p for research
Maynard, Mass.

R&D budget: \$1.3 billion

■ Born: 6/1/46, Detroit.

PhD in computer engineering, Stanford University. Career path: education, research. A former Carnegie Mellon University researcher in parallel processing, Fuller joined DEC to head development of VAX computer. Was named vice-president for research in 1983. Relies on ties with universities for basic research. Achievements: software called X-windows and an algorithm that speeds problem solving by parceling work to multiple computers. Goal: Reducing time from idea to product.

**GENERAL ELECTRIC CO.**

Walter L. Robb, sr. v-p
Schenectady, N. Y.

R&D budget: \$1.15 billion

■ Born: 4/25/28, Harrisburg, Pa.

PhD in chemical engineering, University of Illinois. Career path: research, division head, R&D director. Ran GE's Medical Systems Div., overseeing the development of MRI imaging, before being named R&D head in 1986. Under Robb's direction, emphasis at the laboratory has swung from "D" to "R." Says the shift "has encouraged us to plan longer-range, higher-risk research programs that have a chance of being home runs." R&D center is exploring polymers, advanced electronics, and metals.

**EASTMAN KODAK CO.**

Edwin P. Przybylowicz, sr. v-p for research
Rochester, N. Y.

R&D budget: \$1.1 billion

■ Born: 6/29/33, Detroit.

PhD in chemistry, MIT. Career path: researcher, R&D director. As a Kodak researcher since 1956, Przybylowicz has done key work applying Kodak's film know-how to its blood-analyzer business. After becoming R&D director in 1982, decentralized R&D by placing six labs under key business units. Goal: shortening the product-development cycle. "There is more demand for R&D than the ability to satisfy it," he says—since Kodak's R&D funding dropped to 7% of sales from 9.2% three years ago.

**HEWLETT-PACKARD CO.**

Frank P. Carrubba, director, HP Laboratories
Palo Alto, Calif.

R&D budget: \$1 billion

■ Born: 8/3/37, Waterbury, Conn.

MS in operations management, University of New Haven. Career path: engineering, design, management. A pioneer in RISC architecture, Carrubba was wooed from IBM in 1982 to head up automated-circuit design and testing systems for HP's RISC-based computer family, Spectrum. Was named R&D director in 1987. Has expanded research to include other computer architectures, such as neural networks. Is pushing multidisciplinary research in such fields as optics and electronics.

**UNITED TECHNOLOGIES CORP.**

Robert J. Hermann, v-p, science & technology
Hartford

R&D budget: \$932 million

■ Born: 4/6/33, Sheldahl, Iowa.

PhD in electrical engineering, Iowa State University. Career path: government intelligence, Defense Dept. research, technology management. UTC R&D director in 1987. The former NSA and Air Force R&D official aims to apply UTC's aerospace technology to civilian products. Believes big companies can no longer rely on their own R&D, but must collaborate, especially with small companies. "The habits of larger companies have to change to get access to advanced technology," he says.

**CHRYSLER MOTORS CORP.**

Harry E. Cook, gen. mgr. for scientific affairs
Highland Park, Mich.

R&D budget: \$881 million

■ Born: 2/14/39, Americus, Ga.

PhD in materials science, Northwestern University. Career path: research, education. R&D director since February, 1989. Joined Chrysler after 13 years at Ford in research and engineering positions. Spearheaded the creation of an R&D partnership with Ford and GM to pursue emerging technologies in reinforced plastic composite materials. Says one of the greatest challenges to carmakers is confronting the environmental issues that are raised by auto emissions.

**XEROX CORP.**

William J. Spencer, v-p for corporate research
Stamford, Conn.

R&D budget: \$794 million

■ Born: 9/25/30, Raytown, Mo.

PhD in physics, Kansas State University. Career path: electronics research. The former Defense Dept. and Bell Labs researcher oversaw the development of lower cost laser printers at Xerox. Became R&D director in 1986. Believes the greatest challenge is capitalizing on technology—by moving "R&D from an individual to a team sport." That means more collaboration with marketing and sales and more joint research agreements like Xerox's deal with Ciba-Geigy Corp. to develop laser diodes.

SIEMENS

Remember when all it did was talk?

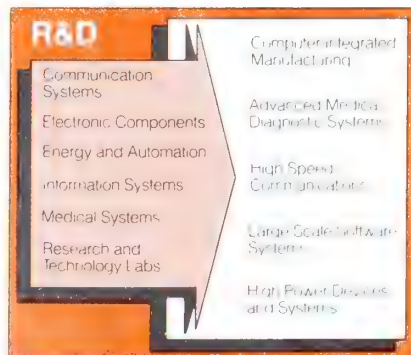
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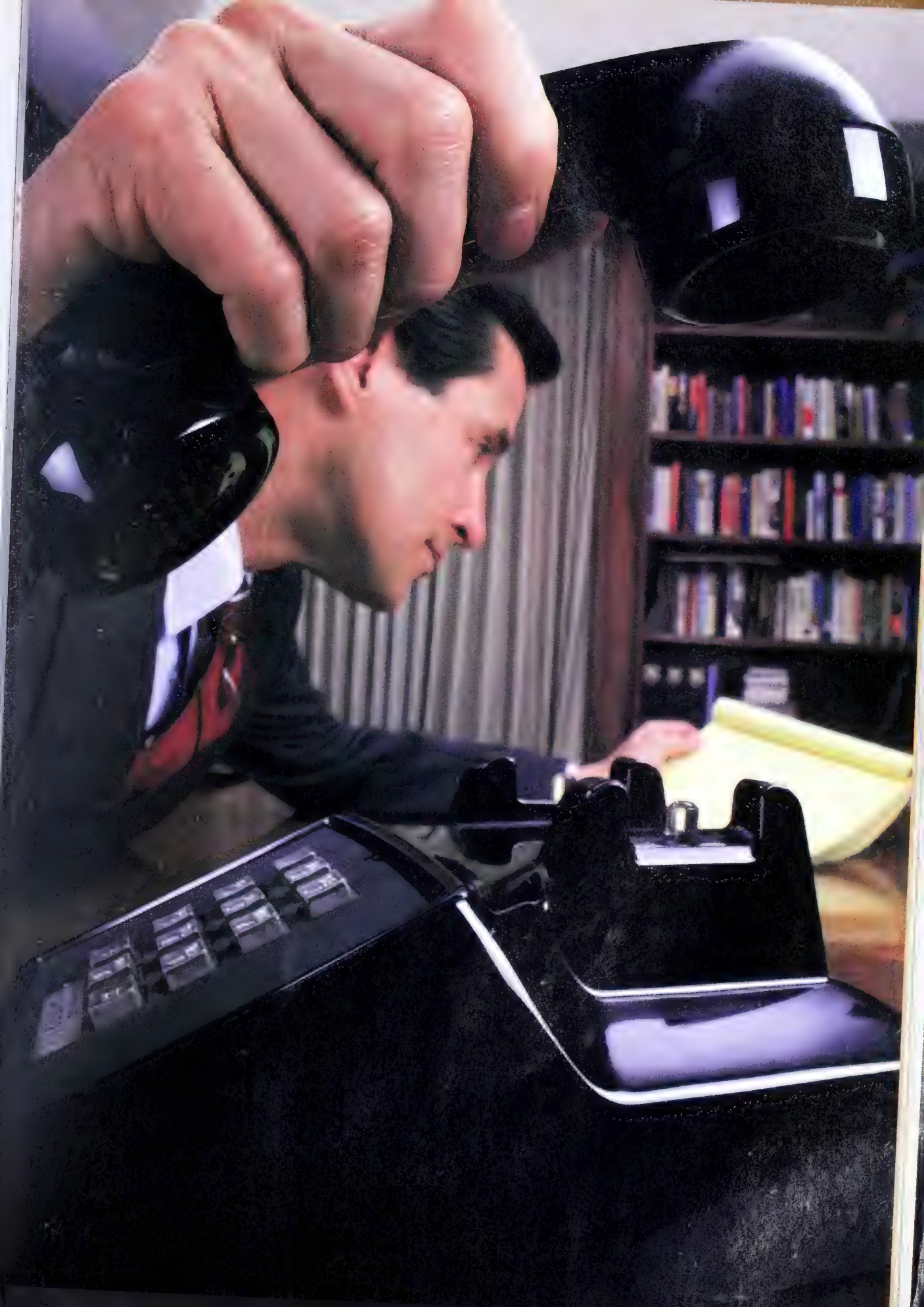
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Americans share a
conviction that
nature's deepest
mysteries and most
intractable problems
can be solved



SOME OF THE NAMES EVERYBODY KNOWS, like Thomas Alva Edison and Orville and Wilbur Wright. Others are not yet American icons: William B. Shockley, who invented the transistor, or Herbert W. Boyer, who figured out how to tinker with very stuff of life, the genetic code. But from the lightbulb to the laser, the transistor to the microprocessor, the airplane to man's first steps on the moon, American scientists and engineers have churned out the innovations that built 20th century civilization. And for every one of those well known technologists, thousands more were studying, thinking, inventing, designing, and building on the work of others.

Many weren't even born in America. But they were drawn by a commitment to progress and the uniquely American conviction that the deepest mysteries of nature and the most intractable engineering problems can be solved. The ►



PEOPLE

**SCIENTIFIC TALENT—BOTH
HOMEGROWN AND IMPORTED**

great leap into the nuclear age, for example, was led by physicists who fled Europe. Whole fields of engineering and science still depend on hungry young minds from China and India.

OUTSIDE THE COMMUNIST BLOC, THE U.S. technical work force is far and away the largest. All told, 5.4 million scientists and engineers work in the U.S. (table). Partly because of the number involved, America has produced more Nobel prize winners than any other nation. But success stems from more than numbers: "We will always lead the world in the creation of new ideas," says H. John Caulfield, a leading optics researcher at the University of Alabama. "By culture, Americans are great scientists—people who've never seen a rule they wouldn't like to break to make something work."

That doesn't mean it's easy. Breakthroughs make headlines: gene-splicing, high-temperature superconductors, the possibility of cold fusion. But the reality is long hours of hard work, and a lot more failures than successes. Even with modern instruments, science remains a painstaking process of trial and error.

It tends to be the scientists who grab the headlines. After all, they're the ones who venture into uncharted territory, sending back news of amazing findings and speculating on the wonders of their discoveries. But pushing back the frontiers of knowledge is only the first step in the arduous process of turning breakthroughs into useful technology. That task falls to applied scientists and engineers.

Take the discovery of ceramic superconductors. It won a Nobel prize for two IBM scientists in Zurich, K. Alex Müller and J. Georg Bednorz, in 1986. But in hundreds of labs, researchers are still wrestling with the problems that stand in the way of commercial applications for those quirky, brittle ceramics.

On both the science and technology fronts, however, the U.S. has never had a shortage of people willing to try. Since the 19th century, Yankee ingenuity has spawned industrial giants turning out products based on research both homegrown and imported. As two wars ravaged Europe, those companies—GE, RCA, AT&T, GM—built labs that attracted the world's best scientific and engineering talent.

The key role science played in World War II, especially the Manhattan Project, highlighted the importance of research. Government money began funneling into universities. Then came Sputnik and the realization that the U.S. didn't lead in every area of science and technology.

Washington boosted funding for science and technical education, creating a whole generation of eager young practitioners.

But now, the momentum has slowed. The U.S. is still the source of major breakthroughs, but as the trade deficit shows, others are beating us to the punch at marketing new technology. "We've finally discovered that we're not the only people in the world," says physicist Robert L. Park, of the University of Maryland.

Fears of falling behind in the global economic race have prompted a number of proposals for changing the face of U.S. science and technology. One crucial front, most experts say, is education. In the best tradition of American science, students from Taiwan, India, China, Korea, and other countries are flooding into U.S. universities. That's healthy for now, but what if growing industrialization abroad lures this budding scientific talent back home?

As a result, scientists say that it's vital to get more native-born Americans into the technological pipeline. That means luring more women and minorities. In 1985, the last year for

which such figures are available, 85.4% of U.S. scientists and engineers with PhDs were male and 88.7% of them were Caucasian, although the shares of both are on the decline.

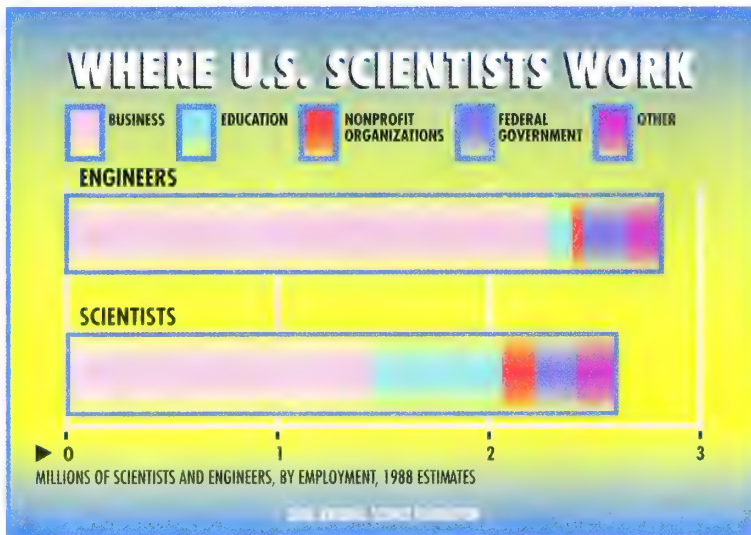
Such initiatives are already bringing profound changes to the scientific work force. New interdisciplinary centers, as well as new ties between universities, government, and industry, are breaking down traditional barriers among once stubbornly individualistic scientists. "There is a lot of good crosstalk go-

ing on," says Thomas E. Stelson executive vice president of Georgia Institute of Technology.

AT THE SAME TIME, TIES WITH BUSINESS are pressuring academic scientists to think profit. "The commercial entanglements raise troubling questions about withholding information or shading research findings to promote a product," says Park. Also, few engineers are interested in careers in production or manufacturing. Unless that's changed, "we can't compete in a world market," says D. Allar Bromley, the President's new science adviser.

Still, the critical resource—the people—is alive and well. As the profiles on the following pages show, U.S. scientists and engineers are still on the cutting edge. It would be a travesty to go on letting the fruits of their efforts be turned into products by America's competitors.

By Alan Hall in New York, with John Carey in Washington



I · N · N · O · V · A · T · O · R · S

THE SCIENTISTS

GREGORY J. McRAE HAS NEVER BEEN comfortable with accepted wisdom. As a youngster, he was thrown out of convent school in his native Ararat, Australia, "for asking the nuns too many questions," he says. Now a chemical engineering professor at Carnegie-Mellon University in Pittsburgh, McRae is still challenging the conventional wisdom—and picking up quite a fuss in the process.

McRae is one of a handful of scientists who are using the world's most powerful computers to predict how pollution behaves in the atmosphere. His computer model, based on work he first did at California Institute of Technology in the late 1970s, relies on 500,000 equations to chart ozone and 50 other pollutants.

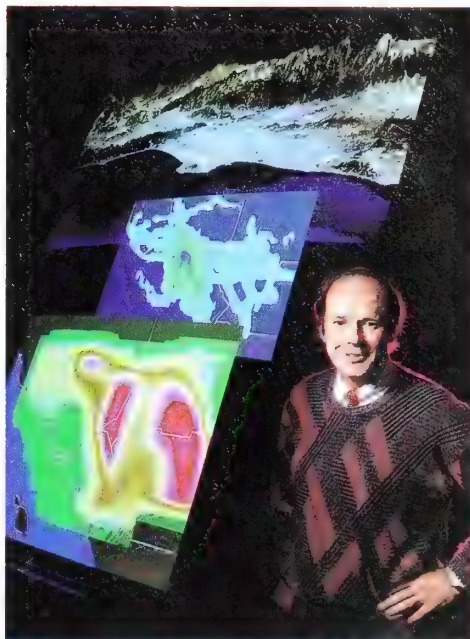
Based partly on McRae's modeling of pollution in the Los Angeles basin, officials of California's South Coast Air Quality Management District recently announced a stringent plan to curb air pollution. Even lighter fluid for backyard barbecues would be banned after 1992. "He's had a major impact on policy," says Robert W. Hahn, a senior economist at the Council of Economic Advisers.

Not surprisingly, these complex computer simulations are controversial. The models are only as good as the equations, assumptions, and data pumped in. Yet they are increasingly being used by governments and industry to make decisions that have enormous economic implications. "You have to have the problems right," McRae says.

To examine atmospheric conditions in such pollution-prone areas as Los Angeles, the models must take into account topography, meteorology, and existing pollution levels, as well as demographic changes and economic projections. They must also predict how various pollutants interact. Emissions from automobiles, refineries, and power plants react with sunlight to produce photochemical oxidants—or smog.

So complex is McRae's simulation of Los Angeles pollution that just doing the calculations took 120 hours on the Pittsburgh Supercomputing Center's Cray YMP supercomputer—a computer capable of doing 2.7 billion calculations per second. Had the work been done on a conventional minicomputer—the type widely used in scientific labs and factories—the calculations would have taken two full years.

McRae's results showed that Los Angeles could comply with Clean Air Act standards only by controlling both hydrocarbons and nitrogen oxides. That means limiting emissions from ev-



McRae's atmospheric model of Los Angeles relies on 500,000 equations

everything from oil refineries and paint factories to substituting methanol for gasoline used in cars, trucks, and buses. The primary contractor for the South Coast pollution study, Systems Applications Inc. (SAI) in San Rafael, Calif., says its model showed that the best method would be to limit hydrocarbon emissions alone.

Both SAI and industry groups attacked McRae's model. Among other things, they questioned why he measured atmospheric conditions 50 miles offshore instead of conditions beginning at the coastline. Such conflicts may be inevitable. With so much margin for error, says atmospheric scientist Basil Dimidreodis, a senior adviser at the Environmental Protection Agency, "we can look at the other guy's model and tear it to pieces." But McRae, 41, is convinced that the sophisticated computer models do reflect reality—and he is beginning to convince officials at Office of Management & Budget, EPA, and various public policy groups.

A self-proclaimed product of the ecology movement of the late 1960s, McRae says his work is driven by the quest to find out "how we can use our understanding of the basic sciences to solve environmental problems." Technological progress, he argues, doesn't have to mean environmental trade-offs.

By Michael Schroeder in Pittsburgh

GETTING A CLEARER VIEW OF SMOG

GREGORY McRAE'S
COMPUTERS TRACK
THE PROCESS OF
POLLUTION

**GREGORY J.
McRAE**

ENVIRONMENTAL
SCIENTIST

CARNEGIE-MELLON
UNIVERSITY

THE SCIENTISTS

THE MAN WITH A NEW BREED OF MOLECULE

DONALD CRAM'S
'CAGES' COULD
BE A CATALYST
FOR NEW DRUGS

DONALD J. CRAM

CHEMIST

UNIVERSITY OF
CALIFORNIA AT LOS
ANGELES

WHEN OFFICIALS OF THE SWEDISH Academy of Sciences called chemist Donald J. Cram of the University of California at Los Angeles to tell him he had won the 1987 Nobel prize, they mistakenly dialed Donald O. Cram, a carpet cleaner in nearby Altadena, Calif. The scientist got the news of his prize only when a local radio station called early the next day. "I told them they shouldn't be calling anyone this early in the morning," Cram jokes. "Then I hung up."

The robust 70-year-old chemist, who is just as likely to be found hanging ten in Malibu as working at his Westwood (Calif.) laboratory, won his prize for pioneering a new branch of chemistry. He developed a way to build molecular "cages" in which one molecule traps another, like a ship in a bottle. Cram has dubbed these complex molecules carceplexes, from the Latin word for prison.

After winning the Nobel prize, Cram didn't rest on his laurels. In March, he announced that he had succeeded for the first time in altering his molecules so they would dissolve in a liquid. That enabled his research team to produce crystals of the carceplexes—a key step in understanding the properties of the unique substances and in purifying them so that they can be used in commercial applications.

The crystals have novel properties indeed. While the cages line up to form a rigid crystal, the molecules trapped inside float in their molecular traps, existing in a state that is not like those of liquids, solids, or gases. Chemists are already pursuing a range of uses for these strange crystals, including new drugs. One idea: A poisonous radioactive element could be trapped in a carceplex and rendered nontoxic so

that it could be injected into the body to irradiate tumor cells.

Cram also envisions new types of displays based on carceplexes. If transparent cages can be built, the molecules' ability to transmit light might be altered by rotating the molecules inside with a magnetic field, a process similar to today's liquid crystals. Moreover, the substances may also be used to mimic enzymes in the human body. All of these ideas, Cram cautions, will take years of research before they emerge from the lab.

Cram's beginnings were humble. He grew up on a farm in Brattleboro, Vt. His father died when Cram was only four, and as a youth he worked as many as 80 hours a week to help his mother make ends meet. And Cram's early academic career, at Florida's Rollins College in the late 1930s, did not seem the stuff of which legends are made. In the school's two-professor chemistry department, he had to make his own makeshift laboratory equipment. His grades were so lackluster that a teacher urged him to forget about a teaching career. But he ignored the advice. "I drove myself and drove myself," he says.

In 1942, after earning a master's degree from the University of Nebraska, Cram broke off his academic career for three years to work with a research team at Merck & Co. to develop purified penicillin. Then, he was awarded a fellowship to continue his studies at Harvard, where he earned a PhD. In 1947, UCLA offered him a teaching position, which he still holds.

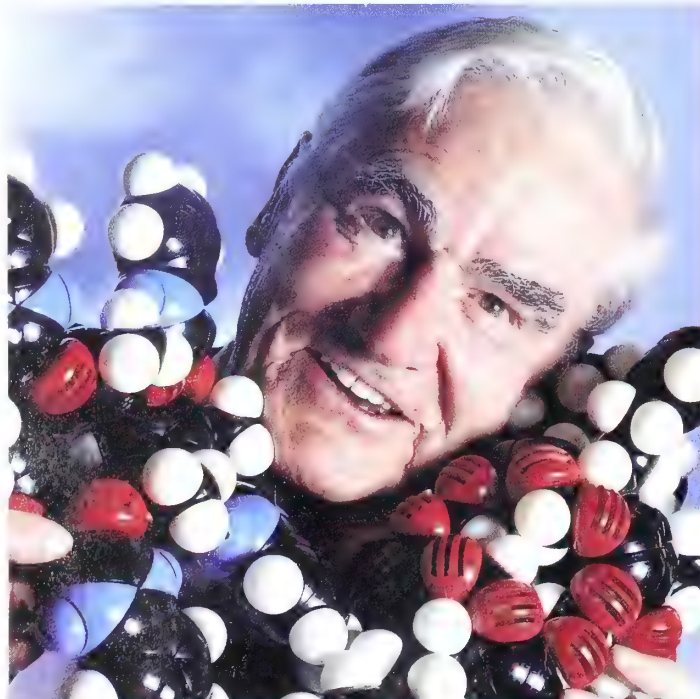
Cram takes play as seriously as chemistry, however. As an avid surfer, he has ventured as far as Australia and South Africa in search of the perfect wave. During the winter, he hits the slopes in Vail, Colo. "Sometimes my chemistry

work doesn't go right until I go skiing," he says. A self-taught guitarist, he often sings folk songs for his undergraduate students at the end of his last lecture.

But Cram is also a tough-minded teacher who often chides his students for taking weekends off from lab work. "He really put my nose to the grindstone," recalls Howard Steinberg, who was Cram's first doctoral student in 1948 and is now a vice-president at U.S. Borox & Chemical Corp. in Los Angeles.

Cram says his work pace will slow over the next five years, at which point he plans to retire. But for now, he's plowing ahead. "Research," he says, "is my temple of worship."

By Patrick E. Cole in Los Angeles



Nobel laureate Cram: "Research is my temple of worship"

A GROWING FORCE IN THE SHRINKING BUSINESS

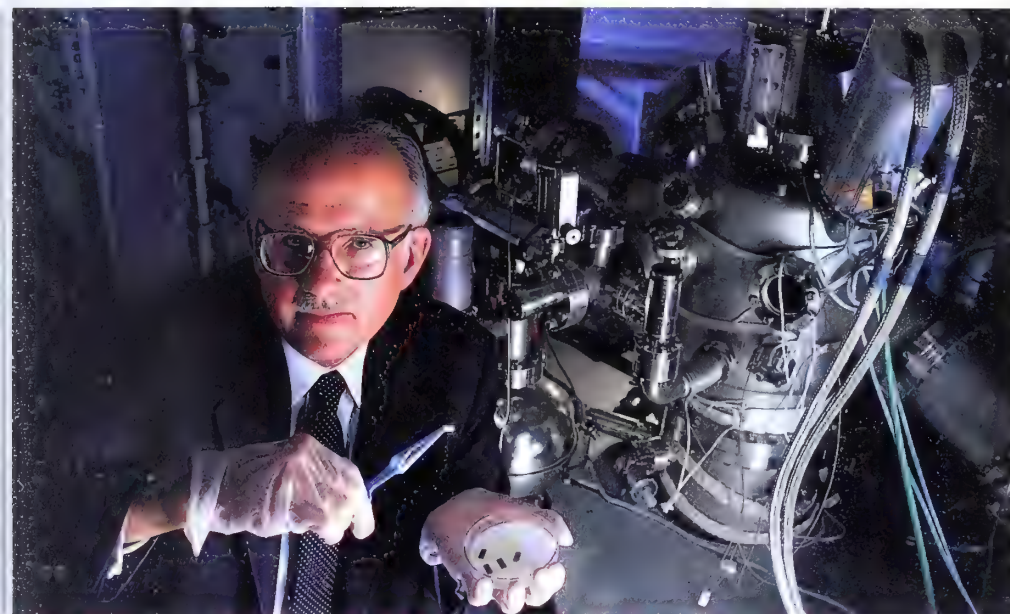
ROBERT BATE'S
TRANSISTOR IS
ONLY 200
ANGSTROMS WIDE

IN LATE 1982, ROBERT T. BATE DESCRIBED HIS ideas for a radically new type of transistor to a group of semiconductor engineers at the University of Illinois. When he was halfway through his brief paper, in which he argued that continuing to shrink microcircuits would require new devices "based on completely different physical concepts," the Texas Instruments Inc. engineer was interrupted by applause. When Bate completed his talk, he was greeted with a standing ovation. "I will never forget that moment," he says.

Bate's superiors at TI were equally impressed, and they charged him with building

By the early 1980s, Bate and others began to see the limits of shrinking devices on silicon. They realized that conventional transistors cannot be built much smaller than 0.3 micron with existing technology—a point the industry is likely to reach in the mid-1990s. And at 0.02 micron, quantum mechanics would take over.

So Bate decided to take the plunge and design a quantum-effect transistor that takes advantage of "tunneling," a curious state in which electrons can jump through insulating materials. Building the actual device, which was 80% funded by the Pentagon, required a "tour de force in semiconductor fabrication,"



Bate: Military applications should be ready a decade down the road

the transistor he had described. Last summer, he and his team of eight scientists and engineers announced that they had constructed the world's first quantum-effect transistor. A mere 200 angstroms wide—10,000 times narrower than a human hair—the device can potentially switch on and off 1,000 times as fast as today's speediest devices. The new transistor relies on the quirky effects of quantum mechanics that take over when electrons are squeezed through conductors so thin that they almost have to crawl through one at a time.

The success of Bate's project doesn't surprise anyone at TI. Bate became attracted to physics at Denver's East High School and pursued it against the wishes of his father, a building contractor, who wanted his son to follow in his footsteps. After earning degrees at the University of Colorado and Ohio State University in the mid-1950s, Bate plunged into semiconductor research at Battelle Memorial Laboratories in Ohio. In 1964, the desire to apply his work directly to commercial products led him to TI. He soon became one of the company's most prolific innovators, winning 15 patents and playing a major role in developing random-access-memory chips for computers and signal-processing technology.

says Bate. Using a technique called molecular-beam epitaxy, the team built up layers of conductive and insulating materials that are a mere 50 atoms thick.

By last July, the TI team thought they had reached their goal. But because success is so hard to measure at the sub-micron level, they spent several weeks analyzing and arguing over the results. Finally convinced, they celebrated with a Texas-style barbecue.

Bate is the first to caution that "much developmental work remains." Scientists must figure out how to connect these tiny transistors with one another and whether the transistors can be built in silicon, the material used for most of today's chips. Bate foresees another decade of work at TI before the first uses, most likely in highly specialized military equipment.

Today, at 58, Bate is one of 54 TI Fellows, a prestigious title reserved for the company's top scientists. That gives him the freedom to pursue projects of his own choosing. At the moment, he is doing research on a project to make even denser chips—"quantum-coupled" devices, which he calls "a step beyond quantum transistors." For Bate and TI, the work is an early step into the 21st century.

By William C. Symonds in Dallas

ROBERT T. BATE

PHYSICIST

TEXAS
INSTRUMENTS INC.

THE SCIENTISTS

IS THE RADIO TUBE WARMING UP AGAIN?

HENRY GRAY HAS
ETCHED THE TINY
VACUUM TUBES
ONTO A SILICON
CHIP

PHYSICIST HENRY F. GRAY, OF THE NAVAL Research Laboratory in Washington, says, "It's so easy to go along with the crowd." But that isn't Gray's way. He took technology most electronics researchers believed was obsolete—and is pushing it into the 21st century.

In the mid-1980s, Gray etched an array of microscopic vacuum tubes onto a silicon chip. Those tiny tubes—called field emitters because they spew out streams of electrons in the presence of an electrical field—promise to open up a new field he calls vacuum microelectronics. Gray foresees superfast computers, flat-panel video displays, and exotic telecommunications gear. "We've got a whole new microelectronics staring us in the face," says Gray.

Gray, who is now 52, joined the NRL in 1967 shortly after receiving his PhD from Notre Dame University. Gray soon became intrigued with the work of engineer Charles A. Spindt at SRI International in Menlo Park, Calif. Spindt was making tiny field emitters—primarily as a way of creating "cold" cathodes that didn't need heat to spew out electrons as do conventional vacuum tubes. But Gray had a different idea from Spindt's. "I thought it could be used to create a transistor technology," he says.

Gray knew that vacuum microelectronics would have many advantages: Electrons traveled much faster through a vacuum than a

electromagnetic pulse of exploding nuclear warheads or the radiation levels in outer space. He had an example to point to: When a Soviet pilot defected to Japan with an advanced fighter jet in 1976, many U.S. observers were amused to find that its complex electronics were based on vacuum tubes. But Gray and other experts realized that the Soviets might be smarter than they seemed: Old-fashioned vacuum tubes were virtually immune to damage from radiation or temperature extremes.

Fortuitously, the lab on the banks of the Potomac is one of the leading research centers for vacuum tubes, which are now mainly used for high-powered military applications. There, Gray and his team used semiconductor processing techniques to etch the tiny vacuum devices on silicon. The technical challenge appealed to him. "I always used to take things apart as a kid, much to the chagrin of my parents," says Gray. He now has a handful of patents for vacuum microelectronics and has applied for others, including one for computer memories based on the technology.

Today, like many scientists who pioneer new fields, Gray has become something of an evangelist. He organized the first international vacuum microelectronics conference, held in Williamsburg, Va. in June, 1988. And he frequently consults with scientists from all over the world, many of whom have visited him at NRL, a lab



Gray: "We've got a whole new microelectronics staring us in the face"

solid, such as silicon. If the microscopic field emitters could be made small enough, they could switch on and off faster than transistors on conventional computer chips—opening up a wide array of applications.

To win funding for the idea at NRL, Gray pointed out another property of vacuum tubes to his superiors: They could be one solution to a high-priority military problem—making radiation-hardened electronics that could survive the

founded in the 1920s at the suggestion of Thomas A. Edison.

A bust of Edison stands on the NRL grounds, but Gray worries that his pioneering spirit has been lost. "The incentives for Americans not to invest in new technologies are very strong," says Gray. He fears that the new technology he is working so hard to develop will be adopted more quickly overseas.

By William D. Marbach in Washington

HENRY F. GRAY
PHYSICIST
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BUS WEEK

THE SCIENTISTS

BREAKING BIOTECH BARRIERS IN BOTANY

ACCLAIM FOR
WINSTON BRILL'S
GENE-ALTERED
PLANTS IS GROWING

BEATING THE odds must be in Winston J. Brill's genes. He was born in London in 1939, just five days after his mother fled Nazi Germany. His father later joined the family in Britain after his release from a German concentration camp. Now, as vice-president of research and development at Agracetus Inc., Brill is tackling a long shot—manipulating the basic genetic building blocks of soybeans, cotton, and other plants to make them resistant to disease, bugs, and chemicals.

Despite great strides in bioengineering drugs for humans and animals, plant biotechnology is proving to be a much more difficult task. Still, the growing public alarm over pesticides has added new urgency to the quest to develop biological alternatives. For Brill and Agracetus, the challenge is huge. The small Madison (Wis.) company is going gene-to-gene against such giants as Monsanto, Ciba-Geigy, and Du Pont, plus a slew of other startups.

In the 1970s, while a professor at the University of Wisconsin-Madison, Brill, 50, made his mark developing the use of genetic engineering to increase the ability of alfalfa and soybeans to trap nitrogen. Since founding Agracetus, his gamble on an unproven technology for putting new genes into seeds and his hands-on management style have produced strong scientific results and loyalty among researchers at the eight-year-old company, which is jointly owned by Cetus Corp. and W. R. Grace & Co.

So far, Agracetus is more than holding its own. It's tied with Monsanto for the lead in using gene-splicing to improve soybeans. And in late April, in a two-acre test plot at Mississippi State University, Agracetus became the first to field-test cotton plants with a gene that makes them toxic to caterpillars.

Of all the major grains, corn is the most difficult for bioengineers to manipulate without making the plant sterile. But Brill says Agracetus has now grown five generations of a genetically altered corn plant. "If it's true, that puts them further ahead than anybody," says agricultural biotech consultant John R. Snyder.

Much of Agracetus' success can be traced to Brill's decision to try a still-experimental technique for implanting foreign genes into cells. Most companies were trying to use viruses to carry alien genes into plant cells cultured in the laboratory. But the process was tortuous—and



Brill: Committing all of Agracetus' resources to a DNA "particle gun" paid off. Rivals now pay to play with it

results with cereal grains were discouraging. So when Agracetus scientist Dennis McCabe built a "particle gun" that can accurately shoot particles of DNA into the reproductive area on the cell, Brill committed all of Agracetus' research to the device. The move paid off. Now, seed and chemical companies, even competitors, are paying Agracetus to use the technology for their experiments.

Brill doesn't do much work at the bench himself these days, but he spends a good deal of time roaming around the company's eight labs. When scientists are stumped, he contributes suggestions, even backing up his ideas with an occasional bet for a bottle of wine. Big breakthroughs can rate a bonus and a catered party. The highlight: a poem immortalizing the event, written and read by Brill.

Recently elected to the National Academy of Sciences, Brill is also a passionate opponent of those who have tried to block field tests of modified plants. "He is the most outspoken scientist in the country on the safety of releasing genetically engineered microorganisms into the environment," says Mary-Dell Chilton, who heads Ciba-Geigy's plant biotech effort.

Science doesn't absorb all of his time, however. Brill is an avid art collector, an avocation he picked up despite his years as "a poor assistant professor," he says. One weekend every month, he and his wife drive three hours to Chicago to browse and buy French paintings and other works in the city's River North galleries.

Agracetus is still several years from profitability. But if Brill's luck holds, the company may well reach its goal of being the first to market a major advance in crop improvement.

By Lois Therrien in Madison, Wis.

WINSTON J. BRILL

MICROBIOLOGIST
AGRACETUS INC.

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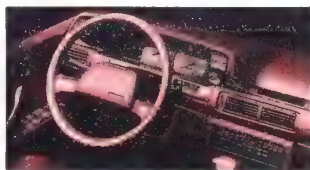
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THE SCIENTISTS

MEET MIT'S MR. BIOCHIPS

CHEMIST WRIGHTON
WANTS TO MAKE
ORGANIC
COMPUTERS

**MARK S.
WRIGHTON**

CHEMIST
MASSACHUSETTS
INSTITUTE OF
TECHNOLOGY

CAPTAIN TWINKIE. THAT'S WHAT FELLOW students called Mark Wrighton when he was a doctoral student in chemistry at California Institute of Technology. He would arrive in the lab at 7:30 a.m. and work late into the night. Always at hand were packages of Twinkies, a quick substitute for time-consuming meals.

It was fuel enough to speed Wrighton through his studies. By age 22, he had completed his doctorate, far ahead of most of his colleagues. Today, at 39, he chairs Massachusetts Institute of Technology's chemistry department, has published hundreds of research papers, and has won a dozen major awards, including a prestigious John D. and Catherine T.

vices that turned on or off in response to insulin levels in the blood could be implanted in the body to activate insulin pumps for diabetics. "You'll see sensors using polymer-based transistors within five years," says Wrighton.

Although the transistor project takes up most of Wrighton's time, he is also pressing ahead with his 13-year-long effort to find ways to mimic plants' ability to convert sunlight into energy. Imitating photosynthesis, he has built solar cells that use semiconductors immersed in an electrolyte solution. He isn't optimistic about near-term commercial prospects, however. "It takes a long time to make a dent in energy technology," he says.

Wrighton's talents in a variety of fields keep



Wrighton is "the bright young star of chemistry"

MacArthur Foundation fellowship. "He is the bright young star of chemistry," says Allen Bard, a prominent chemist at the University of Texas.

Still, Wrighton keeps up the pace of his research. At MIT, he heads a \$1 million-a-year, 25-person research program that is tackling two major projects: using chemistry to convert solar energy directly into electricity and developing computer devices that rely on chemical reactions rather than electronic signals.

Wrighton's pioneering research on molecular transistors, sometimes dubbed biochips, is now attracting international attention. His idea: Use polymers that react with specific substances to turn an electrical current on or off, replacing the electrical switching in integrated circuits.

Because they would rely on relatively slow chemical reactions, molecular transistors would not be nearly as fast as silicon-based integrated circuits. But, if they can be perfected, they would have unique properties. For one thing, circuits based on molecules would be far smaller than anything that exists today. And they would be compatible with living organisms. De-

him in demand by other scientists. In April, when MIT's Plasma Fusion Center tried, unsuccessfully, to recreate the recent cold-fusion experiments, the physicists turned to Wrighton for help. "Whatever it is, he knows something about it," says George M. Whitesides, the chairman of Harvard University's chemistry department. He credits Wrighton for "building bridges" between Harvard and MIT by encouraging collaborative projects.

That may be because Wrighton's own background is multidisciplinary. At Florida State University, he started out majoring in government with a minor in math. But a well-taught introductory chemistry course hooked him. "Getting into the lab and doing things really turned me on to science," says Wrighton.

Today, his only regret is that his heavy schedule hasn't left him time to teach. American students, he says, must be lured back into the sciences if the U.S. is to maintain its technological lead. He hopes to pass on the inspiration that a government major once got from a chemistry professor in Florida.

By Robert B. Duffy in Cambridge, Mass.

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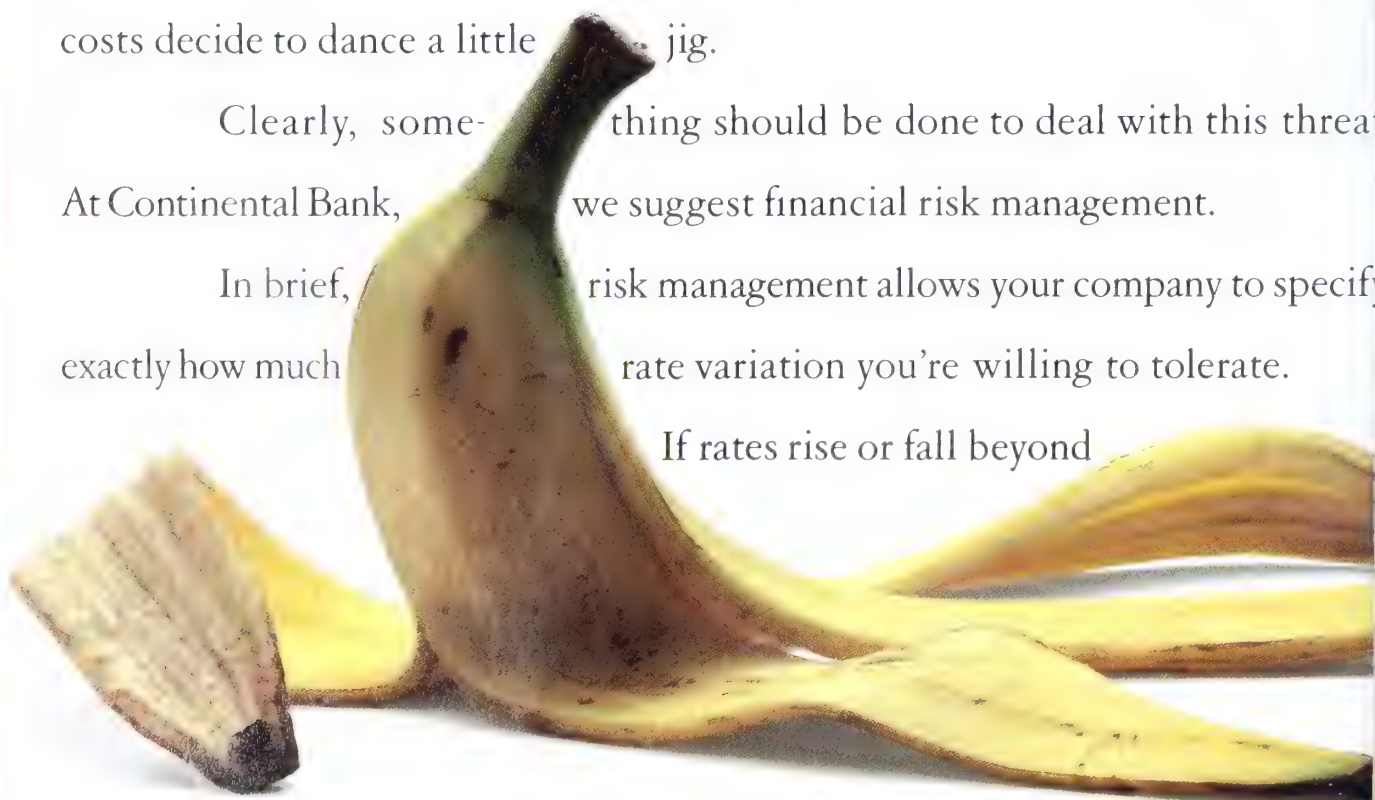
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THE SCIENTISTS

THE DOGGED PUSH TO OVERCOME RESISTANCE

SUNGHO JIN IS
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SUNGHO JIN

MATERIALS
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JUST OVER TWO YEARS AGO, PHYSICISTS made headlines with the discovery of a new class of superconductors that carry electricity without resistance at unprecedented high temperatures. Today, the euphoria has long since subsided, and the hard task of putting those new materials to work is under way.

At AT&T's Bell Laboratories in Murray Hill, N.J., 40 or so scientists work on superconductors. That's fewer people than a year ago, since some dropped the research after the initial burst of excitement. About a dozen devote full time to the effort. Their progress is checkered at best, but they refuse to give up. "They're in it for the long haul," observes Robert C. Dynes, director, chemical physics research laboratory. "They're the people I couldn't tell to do anything else."

Sungho Jin, a supervisor at the Materials Science & Engineering Div., is one of those scientists. The 43-year-old native of South Korea came to the U.S. almost 20 years ago and earned his PhD in materials science from the University of California at Berkeley. For the past 13 years at Bell Labs, he has worked on such projects as developing magnetic materials for telecommunications equipment and magnetic sensors for electronics applications.

When news of the superconductors swept through the scientific community, Jin, like many other materials scientists, shifted his research to the curious ceramics. Photographs of the microscopic structures of the materials line the walls of his office. Samples are strewn on the desk and countertops.

For 26 months now, Jin has doggedly worked to overcome problems that must be solved before the superconductors can be developed into commercial products. The copper oxides become superconducting at the temperature of liquid nitrogen, -392F, which improves the prospects for developing superconducting wires that transmit electricity. But the materials are brittle and can't yet carry enough electrical current to be practical. Says Jin: "We will have to draw on all our materials-science knowledge and apply it."

Jin has read dozens of research papers on processing metals and the properties of other types of superconductors. In a cluttered lab near his office, Jin mixes powders from several dozen bottles to concoct exotic variations of the substances. So far, he has tested more than 3,000 different versions of the new materials.

He's continually searching for new ways to look at the problems he has run up against. "We will never run out of ideas," he says. "If you want a breakthrough, you must keep trying new—even crazy—things."

Jin has successfully made superconducting wire and has developed a process that involves melting superconductors and controlling their cooling in such a way that they carry more current. After weeks of frenetic day-and-night lab work, he has settled into a routine of full days in the lab followed by at least three or four hours of reading and paperwork at home in the evening.

But most of the experiments come to dead



Bell Labs' Jin: In the search for new materials, "you must keep trying new—even crazy—things"

ends. Jin's group has tried more than 700 tests to get rid of the weak links between the ceramic crystals, which limit the amount of current the substances carry. At one point, Jin thought he could eliminate impurities between the grains, which might cause the problem, by borrowing a technique from metal processing—compressing the particles as they're fused by heat. It didn't help. "Everything's failed for months," says Jin.

Despite the frustrations, Jin seems surprised when a visitor asks if he's discouraged. "If you give up, you never have a chance to succeed," he says. But will scientists solve the problems of the new materials? "It's unpredictable," says Jin with a smile. "A breakthrough could come any day, any week. I wouldn't be surprised if it takes one year or 10 years. It depends on clever, hardworking people coming up with the right ideas."

By Emily T. Smith in Murray Hill, N.J.

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JOHN CAULFIELD
LOOKS FORWARD TO
MARRYING OPTICS
TO COMPUTERS

H. JOHN CAULFIELD

OPTICS
RESEARCHER
UNIVERSITY OF
ALABAMA AT
HUNTSVILLE

OPTICS RESEARCHER H. JOHN CAULFIELD thinks he knows the key to the future in computing: light. By marrying optical technologies, such as lasers and holograms, with conventional electronics, Caulfield believes he and other researchers can create a new generation of ultrafast, but inexpensive, supercomputers that mimic the human brain.

Caulfield's vision is based on the fact that optics behave much differently from electronics. For example, light beams can cross through each other without causing interference. Electronic signals can't. He and a growing number of other researchers plan to exploit those differences to get around the bottleneck caused by the hard-wired connections between chips. In such computers, any chip could instantly exchange data with another—much like cells in the brain. Caulfield believes optical computers could process information 1,000 times faster than their electronic counterparts.

The 53-year-old Caulfield, who is director of applied optics at the University of Alabama at Huntsville, was the first researcher to devise a method to create a trillion interconnections—far more than the 10,000 in the most complex electronic processors. A liquid crystal display would be the switchboard. Each of its 1 million pixels would be a tiny gate for accessing the information stored in a million holograms.

Just how to build hybrid computers that use both light and electronics is the subject of debate among researchers. Caulfield, for one, plans to use optics to perform the memory, display, and storage functions, while alternating between optics and electronics to do problem-solving.

Whatever works, Caulfield sees endless applications, such as computers that could create real-time images of human organs. In factories, smart computers could create self-diagnosing machines able to repair themselves. And Caulfield says optical supercomputers could have another big advantage—they would operate at much lower power levels than today's machines, perhaps allowing the creation of solar-powered supercomputers. "Whole new vistas are opening up," crows Caulfield. "This is the first time I feel we've turned the corner and are not competing with electronics anymore."

Caulfield, who majored in physics at Rice University and earned his PhD from Iowa State University, began his research career at Texas Instruments Inc., where he developed optical systems for "printing" multiple images of chips onto silicon wafers. Later, at Raytheon, Sperry

Rand, Block Engineering, and Aerodyne Research, he built his reputation on research into the information storage capacity of light-sensitive materials.

In 1985, Caulfield moved to the University of Alabama at Huntsville to launch the school's applied-optics program, which collected \$1.9 million in funds this year. He envisions turning Huntsville into a glass-based "Silicate Valley."

Caulfield's gung ho spirit irritates some fellow researchers, who assail him for overzealously promising more than optical computing can hope to deliver even by the year 2000. Supporters, however, say Caulfield's sometimes radical thinking has helped others see new possibilities. "John's never steered the safe path," says C. Lee Giles, program manager in the Air Force Office of Scientific Research. "But he's



Will Caulfield's hybrid computer, using lasers and conventional electronics, mimic the human brain?

been very inspirational in giving others new directions to pursue."

As for himself, Caulfield recently co-founded Nodal Systems Corp. in Barrington, Ill., which holds licenses to the Huntsville faculty's patents. Though Nodal has not yet secured venture capital, Caulfield expects the company to begin producing the first components of a optical computer by 1992. That's just a start. "I know it might sound outrageous," he says, "but I think we can be the next IBM."

By Dean Foust in Huntsville, Ala.

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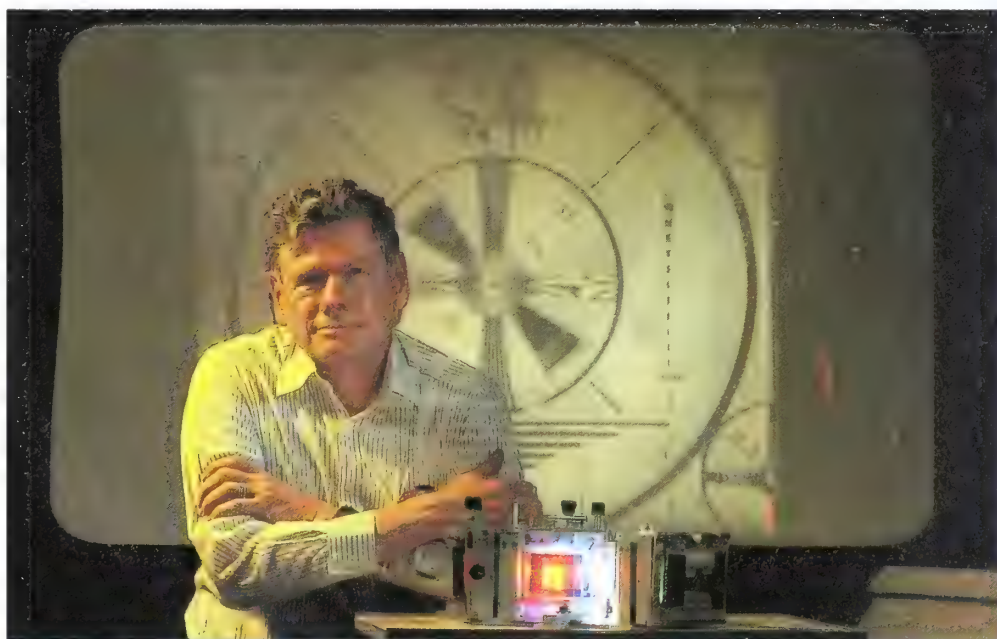
TO MANY TELEVISION ENGINEERS, WILLIAM Glenn is a rare example of old-fashioned American ingenuity. Working in his small laboratory in Florida, he is contending against some of the world's largest corporations in the race to develop a workable system of high-definition television (HDTV), a technology that promises to bring photo-clear pictures into the home in the mid-1990s. "Bill Glenn proves the American spirit of innovation is 100% alive," says Patricia Hill Hubbard, a vice-president at the American Electronics Assn.

Indeed, Glenn, 63, kept going as the U.S. television industry collapsed around him. He had been director of research at CBS Laboratories, but when the lab was scaled back in 1975, he left the company and joined the New York Institute of Technology. Glenn exchanged patent rights—including those on future work—

engineers designing HDTV systems. "Bill Glenn's contribution is teaching us a way to play tricks on the eye," says Jack S. Fuhrer, director of television research at the David Sarnoff Research Center in Princeton, N.J. That former RCA Corp. lab, now owned by SRI International, is developing advanced television systems with NBC Inc. and Thomson CSF.

Glenn's effort is outgunned by Sarnoff and many other competitors, including North American Philips, Zenith Electronics, and Bell Laboratories. They are all vying for a piece of the estimated \$20 billion HDTV market. On Apr. 20, Sarnoff demonstrated the first phase of its \$60 million advanced television project. By contrast, Glenn estimates that he's spent less than \$3 million on his so-called VISTA HDTV system.

Citing disagreements over how to commercialize VISTA, Glenn left NYIT in April, accepting a post at Florida Atlantic University. NYIT says



"Bill Glenn proves the American spirit of innovation is 100% alive"

for funding and a lab that NYIT set up for him in Dania, Fla. There he continued working on advanced television projects. In 1981, he began working on a broadcast transmission system for HDTV.

One of the biggest hurdles facing HDTV is that the signals needed to produce such high-resolution pictures require more spectrum than the Federal Communications Commission allocates for a single conventional TV broadcast channel. As a result, engineers are trying to compress the signal as much as possible.

Glenn found a way to limit the signal by leaving out information that the human eye can't see anyway. He got his inspiration from research on human vision conducted by his wife, Karen, who is an experimental psychologist. Her studies focused on the eye's inability to transmit certain details—particularly of motion—to the brain.

The idea has been widely copied by other

it will market VISTA, paying Glenn a share of the royalties.

Glenn, who is an avid sailor and musician, plans to continue his HDTV work, focusing on flat-panel HDTV screens that can hang on the wall like a painting. Another project is a fiber-optic HDTV system for NASA's proposed space station. And he's working on a compact video projector he says will take up only a quarter of the space of a big-screen TV, while providing movie-house-quality HDTV pictures.

If the U.S. wants to compete against the Japanese in HDTV, Glenn says, it will have to leapfrog ahead with radically new display technologies. But Glenn has come up empty-handed in his search for financial backing from a U.S. company. "U.S. investors are not interested in long-term projects," he says. Now, he is talking to a British company. What's next if that fails? Well, there's always Japan.

By Antonio Fins in Miami



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CHEVY: (eagerly) Well, what do you think?

YOU: (not about to be rail-roaded) So this is Lumina.™ The one you say is "the next generation of the perfect fleet car."

CHEVY: Right. The perfect fleet car, 1990.

YOU: Love the looks. But it's gonna take more than that to replace Celebrity.

CHEVY: Exactly. That's why Lumina also has the most passenger room of any domestic

mid-size. And more power and torque than Taurus.

YOU: I'm impressed. (alarm goes off) But that means my fuel costs go up.

CHEVY: As a matter of fact, Lumina matches Taurus in EPA estimated MPG on standard engines. And beats it in the optional V6 with EPA estimated 30 MPG highway*.

YOU: How'd you guys do that?

CHEVY: Technology. Lumina's a 1990 car.



YOU: And the price of all this technology?

HEVY: Low. Lumina's a Chevrolet, remember.

YOU: Right. And windshield wipers are extra.

HEVY: AM/FM 4-speaker stereo, reclining front seat-backs, tinted glass, twin outside sport mirrors, sport wheel covers, twin visor vanity mirrors, power steering, 4-wheel disc brakes, automatic, carpeted trunk, Scotchgard™ Fabric Protector,† dual-note horns,

stainless steel exhaust system and clear-coat finish are all standard. Along with fluidic windshield wipers.

YOU: And Lumina's still...?

CHEVY: Priced like a Chevrolet.

YOU: Perfect. Absolutely perfect.

*1990 Lumina with optional 3.1L V6 engine EPA est. MPG city 19/highway 30.
†Standard interior only.

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THE
Heartbeat
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TODAY'S CHEVROLET®
FLEET SALES

THE SCIENTISTS

A COLD-FUSION PIONEER WHO KEPT HIS COOL

SINCE 1978,
STEVEN JONES HAS
REFUSED TO JUMP
TO CONCLUSIONS

STEVEN E.
JONES

PHYSICIST
BRIGHAM YOUNG
UNIVERSITY

ON THE AFTERNOON OF Mar. 23, 1989, physicist Steven E. Jones was working in his laboratory at Brigham Young University in Provo, Utah. At the University of Utah, just 45 miles away, B. Stanley Pons and Martin Fleischmann announced at a press conference that they had achieved fusion in a bottle. When a colleague rushed in with the news, Jones was astonished.

The soft-spoken physicist was using the afternoon to finish a scientific paper describing his research on cold fusion—a paper he had agreed to publish at the same time as one from Pons and Fleischmann. But Jones, 40, did not let the incident change his plans. With his wife and children he left for a long-planned Easter trip to Denver. “I am a family man,” he says, “so we went ahead.”

The circus that followed the Pons and Fleischmann cold-fusion announcement tarnished the reputation of many scientists, but Jones emerged with his scientific integrity intact. He didn’t rush out with hasty experimental results. And he refused to discuss his research before it appeared in scientific journals. His caution was borne out in May when scientists at Los Alamos National Laboratory confirmed his findings.

Long before the public had ever heard of cold fusion, Jones had decided to make it the focus of his research career. After receiving his PhD in physics from Vanderbilt University, he began his work in 1979 at a remote government nuclear-research lab in Idaho Falls, Idaho. In those early experiments, he used short-lived atomic particles known as muons to try to achieve fusion at room temperatures.

In 1982, Jones and his team reached a milestone: The cold-fusion experiments were generating a surplus of energy. Officials at the Idaho lab were so excited that they wanted to hold a major press conference to announce the findings. But Jones warned: “If we claim this is a big breakthrough, people will expect commercial power right away.” There was no press conference.

Skeptical of muon-catalyzed fusion’s ever yielding enough energy to be a commercial source of power, Jones turned to other approaches. In 1986, after he joined the BYU physics faculty, he published a paper suggesting that cold fusion might be induced by “squeezing” hydrogen nuclei into the porous structure of various metals or rocks. By May, 1986, the experiments strongly suggested fusion was occurring, but the team needed a better measure



Jones downplayed his discovery, so that people wouldn't "expect commercial power right away."

of neutron emissions to be certain. When BYU colleague J. Bart Czirr built a very sensitive neutron detector, the two were able to confirm that their experiments were producing neutrons. By February, 1989, they were ready to publish the results.

Then Jones got caught in the maelstrom. He had known about similar cold-fusion experiments under way at the University of Utah ever since Energy Dept. officials had asked him in September, 1988, to review a grant proposal. But Jones, a devout Mormon who interrupted his academic studies to spend two years working as a missionary in Belgium, was dismayed by rumors this spring that he had pirated his ideas from Pons and Fleischmann—a charge that Jones flatly denies.

Although he regards his findings as an important advance, Jones is the first to admit that they must seem disappointing to the general public. He thinks the discoveries could be a source of neutrons for instruments treating cancer—or even to screen luggage for explosives. But he doesn’t believe cold fusion is the world’s best hope for cheap, plentiful energy. “What we have is a nice scientific discovery,” he says. “It can be compared with a plant that has just barely peeked out of the soil.”

By William C. Symonds in Provo, Utah

M A N A G E M E N T R E P O R T

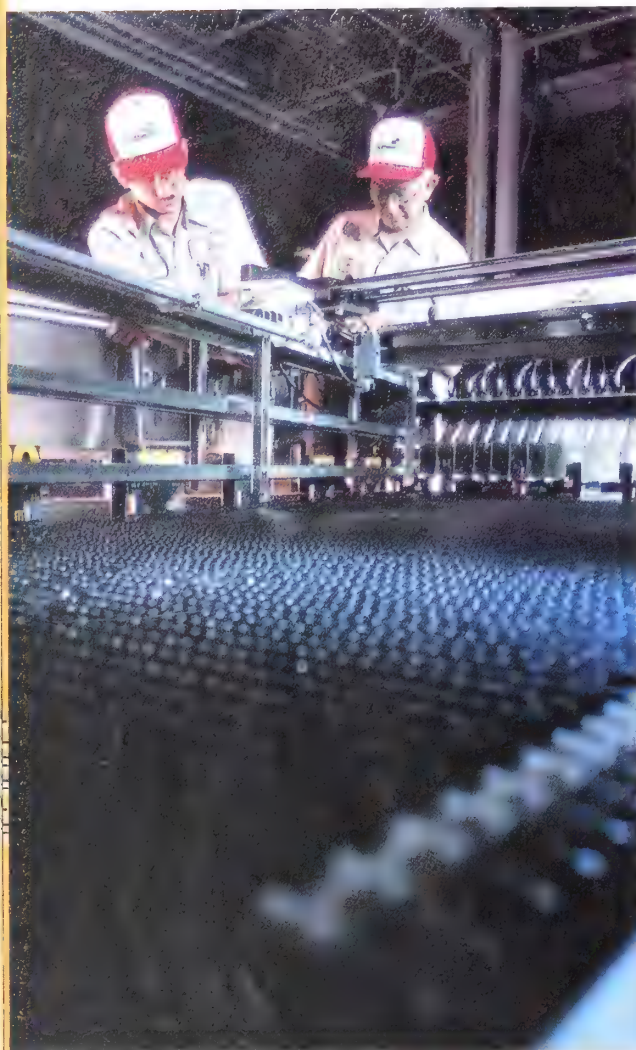
The Silent Force Behind Efficient Business



New textile & apparel leasing systems
help companies meet the challenge of the 90's.

THE FOCUS IS ON EFFICIENCY, SO

Business Turns to Professional



Slip-Torque® material handling systems: Shuttleworth, Inc

As world-wide competition intensifies, companies get back to basics.

Lean and mean have become the watchwords of corporate America. Efforts to improve the nation's international competitiveness and enhance shareholder value have led U.S. corporate managers to an ever more relentless search for efficiency. And as these executives seek ways to get the most out of their resources, more and more companies are turning to leasing and renting assets rather than tying up their capital in owning them. One result has been the dramatic growth in textile and apparel rental.

Take the Chaparral Steel Co., for example. It has not

only prospered in a troubled industry, it's actually been exporting steel to West Germany and Japan. And Glenn Richardson, Chaparral's building and grounds manager, says renting uniforms and textiles has been "a big help" in making Chaparral as competitive as possible world-wide.

That's true at thousands of other better-than-average growth companies as well. By relying on the textile rental industry, companies can gain all the benefits of uniform work apparel and high-quality linen services without any of the burdens of managing these resources. The textile rental industry provides a wide array of products and services, including uniforms for industrial workers, image apparel for service workers, and specialized clothing for those who toil in anything from micro-chip plants to hospital operating rooms.

The industry also provides all the linens needed for restaurants, hotels, and hospitals, as well as textiles for maintenance use and for restrooms. It literally puts out the welcome mats with which you

greet your clients and customers and provides the textiles used to keep your facilities clean and attractive. Typically, textile rental services are custom-tailored to your needs, just as uniforms are custom-tailored to the needs of each individual employee.

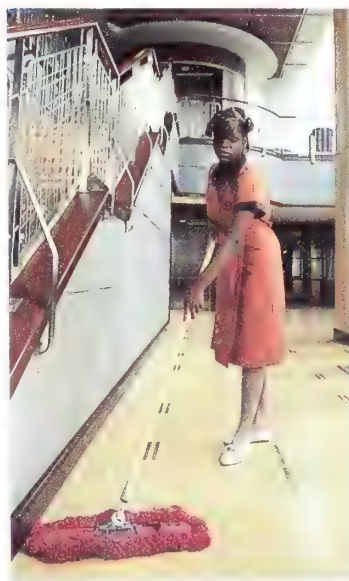
The textile rental industry doesn't just drop off its products at your doorstep. "The



Hi-tech, high-quality, mini-mill
Chaparral Steel Company

whole point of textile rental is shifting the burden of laundering, maintaining, and handling these items. When you work with a textile rental company, your company doesn't need to store products, nor create its own laundry, nor manage the process," says Tom Hammer, president of the Textile Rental Services Association. Textile and apparel rental saves the time and energy of managers who have other things to do besides worry about the supply of napkins and uniforms. And it also saves money. Securities analyst Larry Rader of Merrill Lynch & Co. has estimated that renting uniforms can save a company 25 to 40 percent of the cost of maintaining its own.

The reason is textile rental operators can achieve the economies of scale that individual companies can't get. They can buy goods at the best possible price because they buy in volume and know the



Facilities maintenance:
A.R.A. Environmental Services

Textile Services

market; and they can maintain them properly because it's their business, not their sideline.

The appeal of uniform rental is as old as the division of labor and as sophisticated as a just-in-time inventory system. More and more companies are seeking to get back to basics, to do what they do best, and to let others handle peripheral, unfamiliar activities. Equipment leasing has become a \$100 billion a year industry because it permits companies to gain the use of equipment while shifting the risks of ownership to lessors. Good service, for instance, has become a major industry because companies recognize the value in letting experts run their cafeterias and dining rooms while the company's management sticks to its knitting.



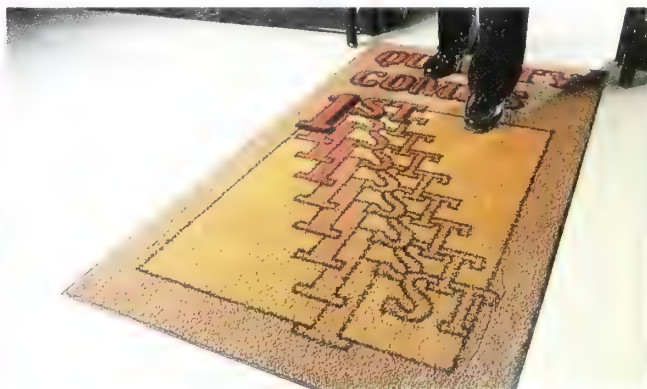
Just-in-time delivery of personalized uniforms

Leasing helps capital-hungry companies.

Fleet maintenance: Penske Truck Leasing Co



Textile and apparel rental has become a \$6 billion a year industry for the same reasons: it lets companies focus on their own businesses while shifting responsibilities for uniforms, linens, and other textiles to companies with expertise in these fields. That's why the industry had a growth rate of 9.1 percent over the last decade, up from 6.3 percent in the previous



The welcome mat is always out

SOPHISTICATED, STATE-OF-THE-ART SYSTEMS

decade. Moreover, growth is accelerating according to a report on the textile rental & maintenance service industry by Business Trend Analysts, Inc. The report states that textile rental receipts should increase an average of almost 11 percent over the next decade, with annual revenues over \$15 billion by the end of the 1990's.

The textile rental industry was born a hundred years ago, when firms recognized they could save money and effort if they let someone else provide and launder the textiles they needed in their businesses. A half century ago, the uniform rental portion of the industry grew rapidly in response to the growth in manufacturing jobs which required specialized apparel.

Since then the industry has continued to evolve in response to changing customer demands, changing technology, and changing occupational and safety standards. The nation's textile and apparel rental firms come in all shapes and sizes: some have carved out specialties in uniforms or textiles or specific industries, and others are generalists. Large or small,



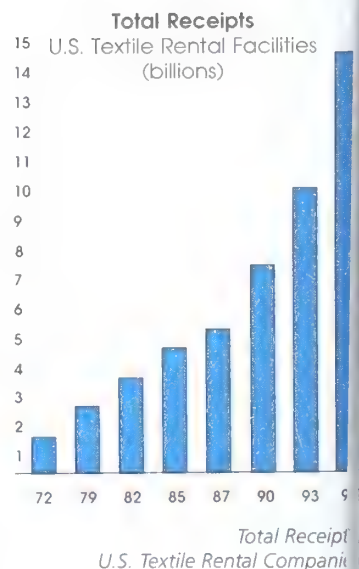
It's unanimous: employees who look good do a better job.

*Linen service upgrade
Prairie Dunes Country Club*



local or national, privately or publicly held, what they all have in common is the ability to deliver a specialized service in a highly efficient fashion. The industry's 15,000 trucks, the silent force behind business efficiency, can get to virtually any business in America any time they're needed. That means their customers have one less thing to worry about and can focus on their own businesses.

The rapid growth in the use of uniforms and corporate apparel throughout the American economy includes everything from basic coveralls to the colorful, coordinated uniforms at theme restaurants and the preppie outfits at some service firms. While the reasons for uniform apparel are as varied as the styles chosen, there are certain basic appeals.



One reason is employee safety. Using uniforms means employees will always be wearing the right protective clothing. "We're very interested in keeping our en



Computerized laundering

employees safe," says Janet Hendelken, a public relations manager at the Adolph Coors Company. "By working with a uniform rental company," she says, "we were able to get uniforms with shirt-tails that stay tucked and which are close-fitting. If an employee had to use his or her own clothing, we wouldn't control that. The safety factor is certainly a reason for using uniforms."

Another reason is to ensure that employees dress appropriately for the job. With uniforms, the employer doesn't have to worry about the taste or judgement of employees in choosing what they will wear to work. "One thing that our uniform apparel program helps with is a standardized look across all of our locations," says Ken Feenstra, marketing manager at Penske Truck Leasing Co. "We have sought a con-

stant, recognizable theme in our marketing program. Having our trucks look the same, and the apparel program, help us achieve that."

For companies seeking to present an image to the public—and who isn't—uniform work apparel means that all of those who meet the public will be dressed to advance that image. "Our people represent the company, so we want them to look good," says Feenstra. One way or the other, employee attire conveys a message to customers. A uniform program ensures that no one will be dressed inappropriately and send out the wrong message.

Moreover, those who look the part will act the part. Uniform work apparel helps build an image among employees as well as customers. Says Ken Anspach, plant manager for Formula Thunderbird Products, which produces high-performance boats, "Anytime you can make people feel a part of the company, even if it's a simple thing like a hat or a jacket or whatever, you've really accomplished a lot. I think uniforms give people a sense of pride and a feeling of being a part of our organization."



*High performance boat building:
Thunderbird Products*

Carol Shuttleworth, director of marketing communications at Shuttleworth Inc., a manufacturer of materials handling equipment, agrees: "We feel that uniform rentals on the shop floor help us maintain the quality we're looking for because they help our employees have a better attitude about themselves and what they're doing with their lives, and the quality of the product they're producing."

Another appeal of uniforms and image apparel is

Professional work apparel says, "May I help you?"

Giant Shenandoah brewery: Adolph Coors Company



PROFESSIONAL SERVICE MAKES IT EASY



Rental companies pioneer modern fabrics & technology

their role in maintaining security; a quick look can enable management to spot those whose dress indicates they are not authorized personnel.

Corporate work apparel is an attractive alternative for most employees because they are freed from making decisions about what to wear to work. "And they don't have work clothes to wash either," notes Glenn Richardson of Chaparral Steel; "they know they've always got clean clothes waiting for them." Moreover, because of the quality of modern uniforms, many employees feel they look good, which boosts morale.

The textile and apparel rental industry makes it possible for employers and employees to get all the benefits of a uniform look without tying up time or money. When companies choose to rent work apparel, their supplier will conduct an audit of their requirements, help the

company adopt the style it wants, and determine the quantities it needs. A customized, fully costed-out proposal is prepared which describes the apparel for each job function and offers color and style alternatives.

Once this is approved, employees are individually measured—the days of one-size-fits-all are long gone—and garments are prepared and personalized. The next step is to deliver fresh, clean garments to each employee. Then, deliveries are provided at regular intervals, and dirty apparel taken away for laundering. Clean outfits are returned to employee lockers on a schedule designed to meet the needs of each category of employee. Changes in requirements because of employee turnover and seasonal variations in employment are factored in and the apparel is constantly monitored so that replacements and repairs are undertaken when needed. Regularly scheduled, professional laundering ensures that employees are attired in fresh, clean, nonallergenic, bacteria-resistant garments that are conducive to a healthy work environment.

Clearly, that's critical for medical facilities. But the Medical College of Ohio and its associated hospitals have additional reasons for using textile rental. Says Charles E. Quinn, head of linen services, "If you talk to health care per-

With uniform rental, if your business is making widgets, you don't have to become a fashion designer or launderer.



Typical garment exchange dispenses



Rental offers a full range of medical textiles

are no big front-end expenses. You can keep your borrowing and financing capacity intact and reserve it for essential business needs. In addition, all textile usage and maintenance costs can be completely expensed; they represent an ordinary cost of doing business.

More fundamentally, if your business is making widgets, there's no need to suddenly become a fashion designer or an expert in industrial laundry equipment. You don't have to find and convert space in your facilities for laundering textiles and apparel. You don't have to hire people to manage an operation that is unrelated to your main business. Quality plays a part, too. Says Chuck Quinn, "There's a trend now to

Rental work apparel programs are custom-tailored to your employees and your budget.

onnel, I think they always would prefer wearing fabric rather than throw-aways." There had been a movement to disposables, but Quinn says, "Because of the growing problem for medical wastes, the cost of disposal is going higher, so it behooves us to find reusable resources." Textile rental has filled the bill. We sought someone who would let us set our own specifications," Quinn notes, "and a rental firm quickly filled the bill." It's not just a question of health; the Medical College of Ohio has created a more cheerful environment by using a variety of colorful linens and staff and patient apparel. "Hospitals are out there marketing and merchandising," Quinn says, "and sprucing up the environs has helped provide a more appealing setting."

Beyond the lengthy list of operating reasons why rental is the best way to meet textile and uniform needs, there are so many important financial advantages in relying on this alternative. When you use a textile rental program, you simply make regular payments for services used; there

Color coordinated textiles: Medical College of Ohio & associated hospitals



UNIFORMS • DUST CONTROL • LINEN

professional linen service...in many cases what we got previously from our own central laundry wasn't satisfactory."

Convenient
textile &
apparel services
save space,
time and money.



Locker room safety mats:
Chaparral Steel Company

Focus on your business and leave everything else to the experts; that's an important adage in today's business environment. That's why many companies have contracted out everything from their employee cafeterias to building and grounds maintenance. That's why managers rely on a battery of outside experts who are available when they're needed but don't consume space or money when they're not. And

that's why more and more companies recognize that owning textiles and uniforms is fine if you're in the textile or uniform business, but if you're not, then you'll find that there's a laundry list of benefits available from rental programs.

In a study which sampled four million customers of textile and apparel rental services, Earl Wilson & Associates found that more than 90 percent of the respondents felt their programs were well worth the cost, and many lauded textile and apparel programs for saving time as well as money.

If you're not already relying on a textile and apparel rental company, you'd be well advised to talk to a TASC member firm who would be happy to discuss your needs and prepare a proposal for your consideration. Remember, the proposals, like the uniforms and textiles provided, are custom-made to fit your individual expectations and requirements.

Personalized rental garments for every job



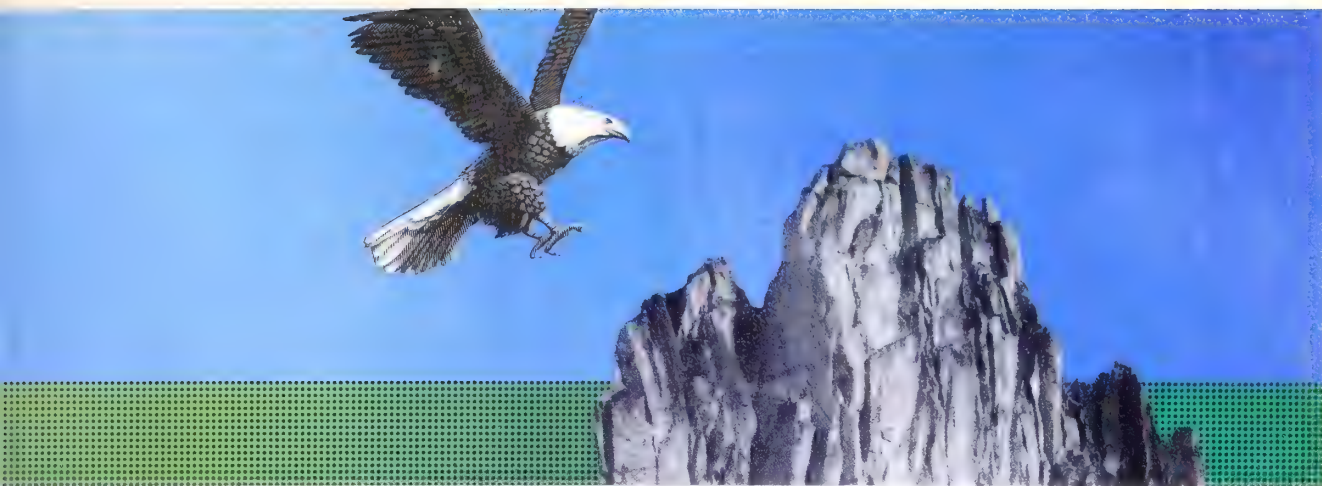
*A uniform appearance:
Goodyear Tire & Rubber Company*

The textile and apparel rental business may not be one you're familiar with, but when you take a closer look, the odds are you'll find it's good for management, good for employees and good for the bottom line. Lyn Wood of The Goodyear Tire & Rubber Company seems to think so. Says she, "Our rental uniform program is designed to enhance professionalism and provide uniformity of appearance in our nationwide automotive service centers."

TASC is the silent force behind efficient business—a nationwide network of uniform and linen rental companies committed to the highest standards of product, service and laundering. Call now; your local TASC member will audit your textile and apparel usage and propose a customized, cost-specific program.



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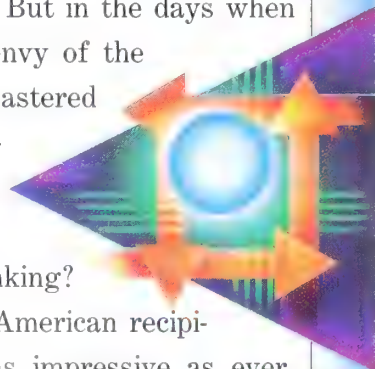
MANAGING IN



HOW COMPANIES CAN HELP MAKE THAT GARDEN GROW

IT WAS LITERALLY A SIGN OF THE TIMES. Thomas J. Watson distributed "Think" signs to the folks at IBM, and the company became one of capitalism's most stunning success stories. The signs eventually degenerated into a fad, then into a cliché. But in the days when U.S. products were the envy of the world, the signs were plastered on walls throughout Corporate America. Not anymore.

Have we stopped thinking? No, the annual roster of American recipients of Nobel prizes is as impressive as ever. Have we stopped taking risks? No, new business formation is still strong. What we have neglected is the ability to nurture fragile ideas into sturdy products before someone uneasy with the unfamiliar snips the idea at the stem. The nurturing process is called management, and innovation withers without it. Here's how some companies are trying to do it better. Perhaps the most successful ones will inspire imitators, just as Watson's signs did.



NOVATION

NURTURING THOSE IDEAS

THE HIERARCHY IN U.S. COMPANIES HAS OFTEN MEANT THAT BRAINSTORMS FROM THE TROOPS LANGUISHED. BUT NOW THAT'S CHANGING

MANAGING INNOVATION



WHY CAN'T MORE AMERICAN COMPANIES keep up with overseas competitors? Industry after industry is being slammed in the world marketplace by foreign rivals who have proved more adept at translating great ideas into great products—or into better ways of making them. True, corporate profits have been strong in the U.S., and the trade gap is shrinking. But profit growth has already slowed, and the recent resurgence of the dollar could be painful for American manufacturers, particularly in fields where foreign rivals have managed to keep pace.

Examples aren't hard to find. Despite dramatic changes at the Big Three auto makers, Japanese cars still account for a record 24% of domestic sales. And the steel industry, after shuttering one unprofitable mill after another, says it still needs protection from imports to prosper. "Look at the leading (U.S.) company in almost any industry five or ten years ago," says Andrall E. Pearson, a professor at Harvard business school and former PepsiCo Inc.

TEAMWORK

WHEN R&D, MARKETING,

AND MANUFACTURING

EXPERTS UNITE ON

A PROJECT, THEY CAN

FIX GLITCHES BEFORE

THEY BECOME SNAFUS

president. "Today you'll find that company will be floundering around."

American managers have drawn up a long list of excuses for their lack of competitiveness: Overseas rivals have lower labor costs. They rely on unfair trade practices. They can raise capital more cheaply. U.S. managers have their homegrown complaints, too: Wall Street is too quick to abandon a company at the first sign of softness in quarterly earnings. Compounding that pressure, many companies have to contend with raiders or takeovers—hostile or friendly. But while there may be some truth in all those complaints, there's no escaping one fundamental fact: U.S. companies are being outmaneuvered by their toughest competitors.

The main reason may be structural. Most American companies are organized around hierarchical, almost military, models, with the CEO as general. That means ideas from the troops are often ignored—if they can fight their way up the chain of command at all. This kind of vertical structure also discourages communication between different disciplines such as research and manufacturing. The result: missed opportunities for new products and sluggish reactions to changing markets. "We manage innovation out of the system rather than into it," says consultant Robert H. Waterman Jr., author of *The Renewal Factor* and co-author of *In Search of Excellence*.

Despite that grim assessment, some of the nation's best-managed companies have found ways to weave an innovative spirit back into their organizations. One talent top innovator share is a heightened ability to cross organizational lines to tap employees' creativity. To nurture sprouting ideas that might otherwise get trampled by the bureaucracy, they are encouraging cooperation between executives at different levels. To hone product development, innovative companies are assembling teams that bring marketing, manufacturing, and R&D together at a project's earliest stages. To make sure employees are doing the job most suited to them, they are creating separate career paths for researchers and are making sure top research executives command more respect. And more than ever, companies are willing to scrounge for useful ideas

wherever they can be found.

The easiest step managers can take may be simply encouraging executives to break ranks and fraternize with co-workers from other departments within the company. At General Electric Co., for example, the heads of all major businesses meet regularly to discuss projects they're working on. Similarly, Monsanto Co. has established what it calls a technology council, comprising top researchers from each of the company's divisions. The council helps scientists swap ideas and avoid duplicating costly research efforts.

Other methods of encouraging innovation require more fundamental management shifts. The most important of those techniques may be using teamwork. Many laggards have clung to a product development process derisively dubbed the "bucket brigade." Someone in a research lab comes up with an idea. Then it is passed on to the engineering department, which converts it into a design. Next, manufacturing gets specifications from engineering and figures out how to make the thing. At last, responsibility for the finished product is lumped on marketing.

While it may be easy to keep track of, the bucket brigade is slow and inefficient. Too often, engineers design products that are too expensive or too complex to manufacture profitably. Plans are constantly pushed back down the chain to fix problems that could have been avoided. After all that, marketing experts are frequently handed products that aren't what customers want most. The outcome: slow response times, high costs, and shoddy quality.

Compare that to the system most Japanese companies use. They take what's called a "fast cycle" approach to development—whipping out

new products and reacting in a flash to shifts in consumer preference. To accomplish that, managers make communication a top priority at the earliest stages of a project. They pull together a team of experts from each business function to anticipate glitches and to guide the project through the organization from start to finish.

The system can work wonders. Consider cars: It routinely takes U.S. auto makers up to five years to bring a new car to market, while Japanese competitors do it in only three years. The upshot:

Fresh Japanese models hit the showroom faster, and they are often better made.

Simple as it sounds, the team concept doesn't fit easily into traditionally organized U.S. companies. "Senior management's success is ingrained with 30 to 40 years of hierarchy and control," says Daniel J. Valentino, president of consultant United Research in Morristown, N.J. But building teamwork requires shifting some authority to team members—which may alienate the managers traditionally responsible for those tasks. What's more, the team concept often faces resistance from the accounting department. That's because accountants usually keep budgets for each vertical department in a corporation. Using teams that cross traditional financial boundaries forces companies to find new ways to track spending.

But where U.S. companies have bridged those barriers, the results are impressive. At Perkin-Elmer Corp., bringing in pros from different disciplines helped cut by half the number of engineering changes required to produce a product. Speeding up the process isn't the only benefit—it has also helped cut manufacturing costs as much as 55%. One example: By collaborating early, de-

R & D CAREER

TRACKS

AT BAUSCH & LOMB,

LAB WORKERS WHO

STAY IN PURE RESEARCH

CAN NOW EARN THE

SAME REWARDS

AS MANAGERS

CHIEF TECHNICAL OFFICER

THIS NEW TITLE

AT GE IS A SIGNAL

THAT R&D IS CRITICAL

TO COMPANY SUCCESS

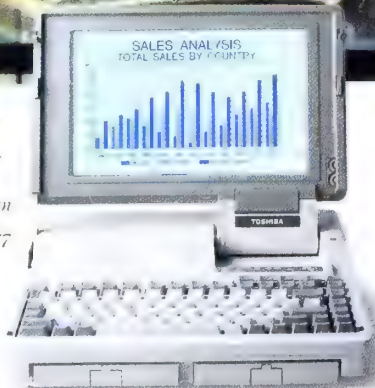


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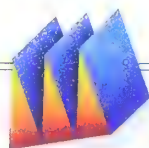
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signers developing a new instrument for chemical analysis scrapped their plan to include a metal fan attached by bolts. Manufacturing experts suggested a plastic version that snapped into place and required fewer parts.

This kind of cooperation often requires team members to develop skills outside their own field. That's especially true for R&D directors, who are usually called upon to lead the teams. But it demands management skills as well as technical prowess—a combination rarely emphasized in the past. "It used to be the bigger



the nerd you were, the better the researcher you were," says François P. van Remoortere, president of W. R. Grace & Co.'s research division. "That's changed now."

To smooth the transition, some companies are providing R&D personnel with a choice of career paths: management or pure research. Companies used to promote top researchers automatically into management ranks, regardless of managerial aptitude. Now, more corporations are looking to hire researchers with good communication and people skills that they

PROGRESS ISN'T DROWNING IN DEBT—YET

Doomsayers paint an alarming picture: As mergers, leveraged buyouts, and defensive restructurings sweep corporate America, companies nationwide pile on crushing levels of debt. Then, to meet hefty loan payments, managers cut funding for everything else—including research and development.

It's a dramatic argument, but so far there's little evidence that deal mania is hurting innovation. Sure, there are examples of companies that have chopped research budgets after making an acquisition or dodging a takeover attempt. But other companies involved in deals have maintained or even increased R&D spending (table). In part, that's because not all deals are the work of asset-stripping raiders. But there's another reason: Few have involved companies in research-intensive industries. "The numbers just don't prove anything—yet," says Herbert I. Fushfeld, director of the Center for Science & Technology Policy at Rensselaer Polytechnic Institute.

The controversy has been fueled by some high-profile horror stories. Consider Owens-Corning Fiberglas Corp. After recapitalizing in 1986 to evade a takeover

attempt by Wickes Cos., Owens-Corning chopped its annual R&D spending in half, to \$30 million. The company no longer pursues projects that won't provide a quick return. It ditched efforts to develop products for the telephone industry, for example, because they wouldn't have produced profits for three to five years.

A study earlier this year by the National Science Foundation seemed to indicate that Owens-Corning's story was a common one. Researchers at the NSF examined spending between 1984 and 1987 at 200 companies that together account for 90% of all privately funded research in the U.S. Its grim conclusion: R&D spending at companies involved in mergers, LBOs, or restructurings dropped by 5.3% between 1986 and 1987, while companies not involved in deals boosted spending by 5.4%.

But a closer look at the NSF study raises questions. Only 16 companies were involved in mergers, while eight

others performed LBOs or restructurings—probably not a large enough sample to be statistically significant. And because the study relies on confidential U.S. census data, the NSF won't name those companies. That has led some researchers to challenge the NSF's sweeping conclusions.

A larger study by Bronwyn H. Hall, an associate professor at the University of California at Berkeley, came to a very different conclusion. Using data from Standard & Poor's Compustat Services Inc., Hall tracked R&D spending at some 2,500 manufacturing companies between 1976 and 1985. After comparing research spending at 320

companies involved in deals, Hall found no evidence of reduced R&D investment.

In part, Hall attributes her findings to the fact that most mergers have involved companies in shrinking industries such as heavy-equipment manufacturing rather than high-growth, research-intensive fields like pharmaceuticals. The same holds true for companies involved in leveraged buyouts. Most LBOs involve companies in mature industries that steadily generate cash. Steven N. Kaplan, an assistant professor at the University of Chicago's Graduate School of Business, studied LBOs at 76 companies. Only seven reported doing any R&D at all.

Moreover, when a strong company buys a weak one, it may increase research spending substantially to make up for years of scrimping at the acquired company. After Chrysler Corp. bought ailing rival American Motors Corp., for example, R&D spending as a percent of sales jumped.

Chrysler hasn't fired a single engineer, according to François J. Castaing, an AMC veteran who now runs Chrysler's vehicle-engineering department. And Castaing says working for a healthy company creates a more secure—and thus more creative—environment for engineers.

Because many of the biggest mergers and LBOs have short track records, it may be too soon to proclaim innovation safe from deal mania. But for now, there's little reason to believe the sky is falling.

By Kathleen Deveny in New York

DEAL MANIA VS. INNOVATION

WHY THE JURY IS STILL OUT

	R&D as percent of sales	
	Two years prior*	Two years after
Mergers		
Restructuring		
CRITICS CITE THESE CUTS...		
General Electric/RCA, 1986	3.5%	3.0%
...BUT RESULTS ARE MIXED AT OTHER COMPANIES...		
Baxter/American Hospital, 1985	3.8	3.5
Burroughs/Sperry, 1986	7.0	6.7
Chrysler/AMC, 1986	2.4	2.9
Goodyear, 1986	2.8	2.8

* Average based on combined revenues and R&D spending
DATA: BW, COMPANY REPORTS.



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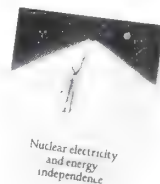
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NAPOLEON

AND THE TRIDENT II

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It was 1804. Napoleon Bonaparte stared with frustration across the English Channel toward his nemesis. Behind him was the invincible Grande Armée, nearly 200,000 crack veterans, all straining at the leash to crush the hated English.

Everything was ready for the invasion; the transport barges, the escort fleet, ammunition, cavalry, artillery, ambulance wagons, even field bakeries. Every last detail had been meticulously planned. It was

Napoleon at Boulogne, 1804, Maurice Orange, 1901, Musée de l'Armée, Paris



erely a matter of crossing the twenty-eight miles of
ter in a single night's journey.

Yet for month after month Napoleon paced the
ach at Boulogne, hesitating to act. Finally, after over
year of waiting, he suddenly turned his huge army
ound and marched it into the heart of Europe. The
n to invade England was laid aside forever.

The thing that had stopped the great conqueror
he height of his career was the Royal Navy, Britain's
all of oak." Out of sight, just over the horizon, it was
vertheless always foremost in Napoleon's doubts.
d though the future Emperor's own fleet outnumbered
the British, he dared not test it.

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tiveness of a strategic system is in the mind of the
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by the improved performance of Trident II missiles.

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retaliatory capability will present an unsolvable prob-
lem in the mind of a would-be enemy, calculating his
chances of a successful first strike. He may rant and
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can tap later for leading teams. Meanwhile, they're providing better pay and more responsibility to employees who choose to stay in the lab.

Contact-lens maker Bausch & Lomb Inc. has developed a system for doing just that. New lab employees can choose between management and research routes after two to five years with the company. To make sure researchers don't feel slighted, the company has created vice-president-level spots for them, bringing bigger salaries, stock bonuses, and other perks. "The fact that financial rewards will be equal provides a clear sign that we're serious," says Terry Dolak, research vice-president for personal products. So far, only about 5% of Bausch & Lomb's R&D staff have taken the research track, but the company expects that figure to stabilize at 10%. In the past, nearly all of the company's brightest technicians were channeled into management.

NOT EVERY COMPANY HAS BEEN SO successful. At Rolls-Royce Motor Cars Inc., for example, the dual ladder "works only for the few," says Kenneth W. Bushell, vice-president for engineering. "It only works if you're a genius, or should I say genius squared?" Worse, at some companies research is perceived as a sidetrack for managers past their prime. That kind of half-hearted commitment can backfire by hurting morale and actually slowing product development.

Despite such setbacks, plenty of other companies are searching for new ways to take care of their technical staff. At GE that has meant creating the post of Chief Technical Officer, to be filled by the company's top R&D executive. The new post is meant as a signal to employees outside the lab that GE considers research and development critical to the company's success. "If a division head finds a technical person in with the CEO, he gets the idea," says Roland W. Schmitt, president of Rensselaer Polytechnic Institute and former head of R&D at GE.

Learning new communication skills is hardly the biggest challenge researchers face. Even the largest and most successful companies have trouble keeping track of all the latest scientific developments. In addition, the soaring cost of research often makes relying solely on homegrown ideas impractical. As a result, more companies are engaging in what they call hunting and gathering—searching for new ideas outside their own labs. That often means developing costly technologies by working closely with university researchers or forming joint ventures—even overseas. "We [U.S. managers] probably looked with unwarranted arro

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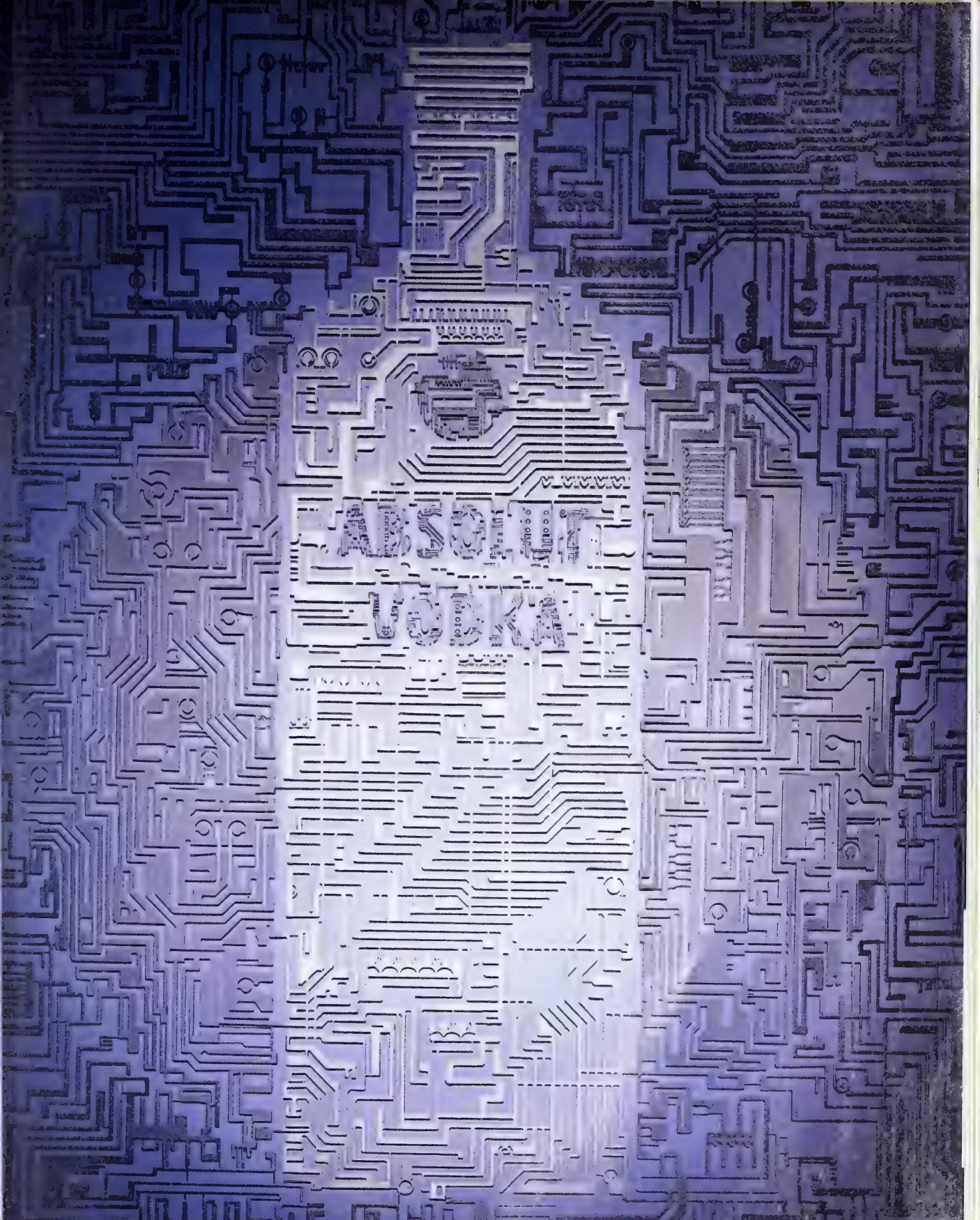
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BALANCED FIELD LENGTH	4,285	4,460
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CRUISE SPEED	Mach .80	Mach .80

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gance at some of our competitors around the world and felt we had little to learn," says Gordon F. Brunner, senior vice-president at Procter & Gamble Co.

No more. In industries that require heavy research spending or demand a global marketing presence—such as computers, telecommunications, and pharmaceuticals—joint ventures have already become routine. In addition to spreading development costs, forming joint ventures can also speed the introduction of new products by avoiding duplication of research efforts.

In addition to seeking partners, companies now routinely search outside the U.S. for technical breakthroughs. To keep tabs on developments abroad, they're setting up satellite labs. That helps them get closer to international markets and lets them spot ideas that could result in new products at home. W. R. Grace, for example, has set up an operation in Japan specifically to transfer suitable technology back to the corporate labs in the U.S.

The hunting and gathering approach raises new challenges to management skills. Some companies that have linked up with tiny, leading-edge research firms have been badly burned—especially when they used the joint venture to

enter an unfamiliar market. Consider Du Pont Co.'s abortive joint venture with HEM Research Inc., a tiny Philadelphia outfit that needed cash to develop a drug to treat AIDS patients. Hoping to build a presence in pharmaceuticals, Du Pont was dazzled by HEM's early research on the drug Amgen. But soon after the giant chemical maker signed on and started pouring millions into a two-year research project, it became

clear the remedy was not effective. While plenty of research projects fizzle, even Du Pont officials now admit they didn't investigate HEM carefully enough: It had been passed over as a venture partner by several other companies with longer histories in drug development.

Like most changes, getting managers to encourage innovation can be painful. But plenty of companies are already showing that the rewards are worth it. Witness the 20 companies selected by BUSINESS WEEK's editors as examples of the most innovative companies in America. As while methods vary, one common theme emerges: Managing for innovation enables the to keep up with the competition.

By Russell Mitchell in Minneapolis

HUNTING AND GATHERING

TO KEEP TABS ON
DEVELOPMENTS ABROAD,
U.S. COMPANIES ARE
EVEN SETTING UP
SATELLITE LABS

THE TRAILBLAZERS: A PORTFOLIO OF TOP INNOVATIVE COMPANIES

Company	Industry	1988 sales (\$ millions)	Accomplishments
ALLEGHENY LUDLUM	Steel	\$1,208	See profile on page 129
BLACK & DECKER	Tools	2,280	A rejuvenated product line that stretches from Pirhana saw blades to steam irons
CORNING	Manufacturing	2,122	A pioneer of fiber optics and a leader in quality control. See-through cookware a hit
CRAY RESEARCH	Computers	756	The company to beat in super-computers, splitting up to get a new lease on life
DOW CHEMICAL	Chemicals	16,682	See profile on page 134
FORD MOTOR	Cars/trucks	92,446	See profile on page 130
HEWLETT-PACKARD	Computers	9,831	See profile on page 128
INTEL	Semiconductors	2,875	See profile on page 123
JOHNSON & JOHNSON	Medical products	9,000	See profile on page 132
KELLOGG	Food	4,349	Modern manufacturing meets breakfast cereals. Result: New products and fat profits
MARTIN MARIETTA	Aerospace	5,728	Rockets, electronics make it best-positioned of big defense contractors
MERCK	Drugs	5,940	See profile on page 120
HERMAN MILLER	Business supplies	714	Fresh designs for office furniture, as well as unique incentives for workers at every level
3M	Manufacturing	10,581	See profile on page 121
MONSANTO	Chemicals	8,293	A leader in genetic-engineered crops. New products: Anti-ulcer drug Cytotec, carpet fiber
MOTOROLA	Electronics	8,250	Innovative employee training programs help it stay at forefront of industry
PHILIP-BOWES	Business supplies	2,650	Riding the wave of a record number of new products, including portable fax machines
RUBBERMAID	Manufacturing	1,194	See profile on page 122
STRYKER	Medical products	179	See profile on page 126
THERMO ELECTRON	Service industries	501	A leader in co-generating electricity. Also makes bomb detectors, portable incinerators

DATA: STANDARD & POOR'S COMPUSTAT SERVICES INC., BW

How Farsighted Executives Are Using Their PC's For The Fun Of Profit.

By William J. Spink

For years now you've been hearing about the wonderful things personal computers will do for The Executive of the 90's—at least in theory.

But what's the *reality*? Can a PC help you enjoy your work more and show a greater profit, here and now? According to your peers, the answer is "yes."

"With just a few keystrokes," says Al Lynch, Director of Corporate Planning and Research for JCPenney Company, "I can screen companies, find possible acquisitions or 'scope-out' competitors. It's a real competitive edge."

Walt Casey, V.P. of Communications at ConAgra says, "I spend a lot of time each day poking into this and tracking that. It's much easier when you can immediately get the facts from a computer, rather than having to make a series of phone calls."

"One of Dow Jones News/Retrieval's services, QuickSearch, is a Godsend," adds Jim Posner, a respected retail consultant. "It gives me detailed corporate reports within minutes—I don't even have to leave the office."

Instant information: the executive advantage.

To lead in today's marketplace, you need information like *that*," Lynch says, tapping his fingers.

He recalls an example of how Dow

Jones News/Retrieval®—the business and financial information service from Dow Jones & Company, Inc.—gave JCPenney Company a real advantage.

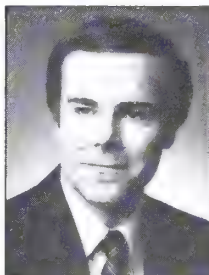
"Let's just say that a 'major player' in our industry was being acquired. Within a few hours we knew more about the take-over candidate than the bidder did. Honestly, we knew more than some investment bankers did."

Decision-making with the leading edge.

"Then we started getting the corporate insider trading data," Lynch continues. "It showed us some things that influenced a major deal."



Al Lynch
Director of Planning
and Research,
JCPenney Co.



Walt Casey
Vice President,
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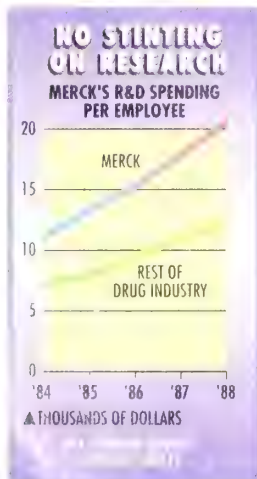
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I · N · N · O · V · A · T · O · R · S THE COMPANIES

A CULTURE THAT JUST KEEPS DISHING UP SUCCESS

R&D MUSCLE HAS BROUGHT MERCK A STEADY STREAM OF TOP-SELLING DRUGS



WHEN A WORRIED RESEARCHER came to Alfred W. Alberts because an expected chemical reaction hadn't occurred in an experiment, Alberts started getting excited. After the procedure was repeated and nothing happened, Alberts knew they were on to something big: Merck & Co. researchers had found a way to block cholesterol formation. In 1987, nearly a decade later, that discovery resulted in the introduction of Mevacor—a \$430 million-a-year blockbuster drug.

Sound like luck? Only if you believe the adage that luck is the residue of design. Mevacor's introduction was the culmination of more than three decades of painstaking research—and an investment of more than \$125 million. That kind of persistence, generous investment, and dedication to hiring top researchers has helped make Merck one of the nation's most successful pharmaceutical houses. "There's a tradition of innovation here," says Alberts. "It's not something you can build overnight."

Persistence is an essential ingredient for anyone who wants to stay on top in this industry. Developing a new drug often takes more than a decade, and 9 out of every 10 that make it to the safety-trial stage fail. So Merck has developed a system to make sure that good ideas aren't lost during the lengthy development process. The company assigns a team leader to each promising research effort. The leader must shepherd the product through the entire process—from basic research to final government approval. He or she must also persuade scientists from other disciplines to commit their time and budget to each project. That builds unity and helps researchers feel that they have something invested in a project.

More than anything else, however, Merck illustrates that success begets success. The company has been a leading research house since 1933, and its winning record has helped Chief Executive P. Roy Vagelos, an M.D., recruit hundreds of top researchers. To keep them, Merck makes sure its scientists are among the industry's best paid and best treated. The environment seems healthy: Last year, two Merck scientists received the National Medal of Science—for improving methods of large-scale

production of such drugs as penicillin and for developing vaccines for infectious diseases, including measles and mumps.

"The better the quality of the people and the organization, the more success will continue to come," says Dr. Edward M. Scolnick, who heads the research lab division. In fact, 11 Merck drugs introduced since 1978 boast annual sales of more than \$100 million—more than any other rival. One of them is Vasotec, a drug that lowers blood pressure. It brings in annual revenues of more than \$1 billion after only three years on the market.



It took 10 years of tinkering, but Merck's Mevacor now pulls in \$430 million a year

Success breeds success at Merck in financial terms, too. Earnings growth has amounted to 22% annually for the past five years. And Merck plows much of that money right back into development of new products. The equivalent of \$20,900 per employee that Merck spends on research is not only nearly twice what the company spent five years ago, it's also well above the \$12,700 that the rest of the industry averages.

Of course, even Merck isn't immune to the tough times that inevitably visit drugmakers. The company has endured dry spells between blockbusters as recently as 1981 and 1982, an even the best research doesn't produce winner, on a predictable schedule. But Merck's ultimate success has been in keeping those dry spells few and far between.

By Joseph Weber in Philadelphia

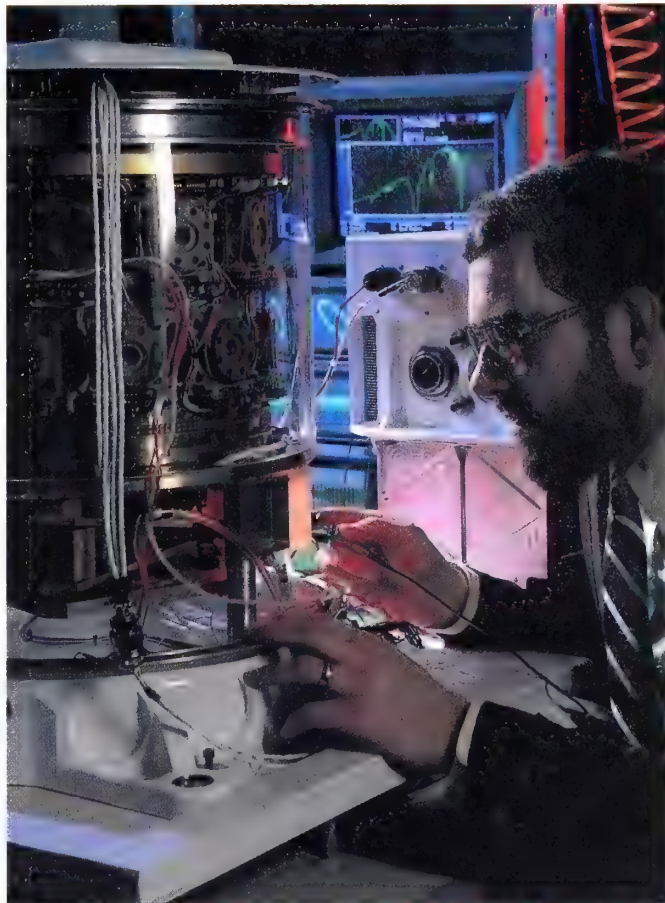
FOR DECADES, 3M CO. HAS relied on a simple strategy: Stay ahead of the competition by spinning out new products at a breakneck pace. The company boasts a catalog of 60,000 items, including Scotch tape, floppy disks, and Post-it notes. Products developed in the past five years account for nearly one-third of 3M's \$10.6 billion in sales.

3M researchers have long excelled at whipping up new products, and they have even developed experiments for the space shuttle. But innovation at 3M's factories hasn't kept up. In the past, that didn't matter much: 3M enjoyed such strong market positions for so long that it rarely had to compete on price alone. But rivals around the world have become more adept at developing their own new products—often more cheaply. In response, 3M has launched a massive effort to cut manufacturing costs—not by laying off workers or shuttering plants. Instead, 3M is asking each of its 42 divisions to come up with ways to streamline operations and boost productivity.

Chief Executive Allen F. Jacobson applies the same basic approach to cost-cutting that he does to product development. "What we had to do was put people to work on some clear objectives," he says. Jacobson decided that by 1990, 3M needs to improve productivity, speed manufacturing cycles, and cut expenses caused by poor quality—by 35% each. He calls his decree the J-35 program. (The J is for Jake.)

To meet the overall target of 35%, each division—and each individual factory—has set specific goals. Here, too, the approach is similar to product-development rules, which dictate that 10% of every division's sales must come from new products. But it was a new drill for the manufacturing staff. And rather than implementing companywide policies for cutting costs, Jacobson left it up to line managers. Each division might face different challenges, he figured, and the plant managers would be best equipped to identify problems and solve them. To help divisions share information, a manufacturing council was established.

Early results have been encouraging. Workers at an Aberdeen (S.D.) plant, which assembles respirator masks used by painters, decided that they were doing things all wrong. After each step in the processing, filter materials are returned to a warehouse to await the next step—seven round trips in all. "The beauty of a program like J-35 is that you get the opportuni-



A scientist at 3M's Space Research & Applications Lab prepares an experiment for the shuttle

ty to stand back and rethink what you're doing," says James T. Mahan, former head of manufacturing at the plant.

3M formed teams of factory workers to help figure out ways to untangle the flow of materials and components through the plant. Their solution was radical: The company scrapped its traditional assembly system. Instead, machinery was reorganized into work cells, where all the steps needed to make finished masks could be done in rapid sequence. That eliminated the need to park partially manufactured products in the warehouse. Along with a new inventory-control program, 3M says, the new system has helped improve quality and reduce wasted materials by 54%.

To keep new solutions coming, 3M is careful to reward good ideas. At Aberdeen, workers were treated to pizza parties and received trophies after they met their goals. To encourage cooperation, the company pegged individual bonuses to the creativity of the solutions worked out by their teams.

Jacobson says 3M is well on its way to meeting its 1990 deadline for J-35. The cost of goods sold has steadily declined for three years, even though the company has increased research spending. In fact, Jacobson is so confident that his approach has worked that he's already planning 3M's next goals.

By Russell Mitchell in St. Paul, Minn.

MINING THE WORK FORCE FOR IDEAS

AT 3M, EACH

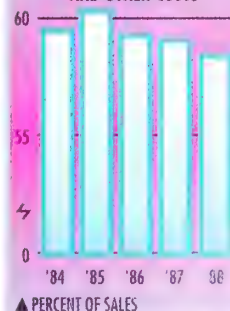
DIVISION—AND

PLANT—HELPS

CUT COSTS

3M'S STEADY SQUEEZE ON COSTS

MATERIALS, LABOR, AND OTHER COSTS



▲ PERCENT OF SALES

DATA: MINNESOTA MINING & MANUFACTURING CORP.



PROFITS ON EVERYTHING BUT THE KITCHEN SINK

RUBBERMAID'S UTILITARIAN TWIST HAS PAID OFF IN STEADY GROWTH



IN 1934, THE WOOSTER RUBBER CO. MADE A radical addition to its line of balloons: a dustpan. The item was about as undramatic as the concept: to offer the public a well-designed product that was useful, long-lasting, and inexpensive. But it's been a winner for the company that's now called Rubbermaid Inc. That humble dustpan has spawned more than 2,000 products. Most display Rubbermaid's knack for adding a utilitarian twist—like a revolving plastic shelf, perhaps, to help you reach just the right spice jar.

The products may be a bit ordinary, but Rubbermaid's consistency has been anything but. Under CEO Stanley C. Gault, who returned to his native Wooster, Ohio, in 1980 after missing out on the top job at General Electric Co., Rubbermaid derives 30% of its sales from products less than five years old. The stream of new products has kept both sales and earnings at Rubbermaid growing by at least 15% a year.

To make sure it hits its targets for new products and growth, the company uses new products' share of sales, as well as growth of sales and earnings, to determine compensation for its executives. For example, the regular salary of the president of the housewares division, Wolfgang R. Schmitt, is \$390,920, but his cash performance bonuses over the past three years have averaged \$206,844. Rubbermaid will say only that a significant portion of that extra pay is due to his division's success with new products.

To stay close to its customers, Rubbermaid's five divisions operate as autonomous companies: In addition to housewares, the company now has an office-products division, The Little Tikes Co. toy subsidiary, an international division, and a commercial-products division. All of them are expected to embrace the new-product religion of the core household business. Commercial products recently came up with a clear plastic pitcher that restaurants are snapping up because it looks like glass but won't break. At the day-care center for children of Little Tikes employees, researchers watch through a one-way mirror to see which toys the kids like best.

It's not all kid stuff. The company also uses demographic and lifestyle analysis to spot trends. But the heart of product development at Rubbermaid lies in focus groups. And no customer gripe is too small to consider. When focus-group participants complained recently of puddles in their dish drainers, Rubbermaid answered with a drain tray a bit higher in back to

help water flow into the sink. Extensive focus-group surveys permit Rubbermaid to skip test marketing and still give shoppers what they want. "The Rubbermaid name is a magic name to the minds of consumers," says Eugene O'Donnell, senior vice-president at Hills Department Stores Inc.

To keep up the flow of new products, Rubbermaid has turned to acquisitions. Since buying Little Tikes in 1984, the division has racked up annual sales increases averaging 35% a year and has won kudos for imaginative design of such products as an indoor gym. The company's new line of inexpensive office workstations is a marriage of Gott Corp., acquired in 1985, and MicroComputer Accessories Inc., acquired a year later. Now MicroComputer Accessories, which has long made office in-boxes and plastic cases for floppy disks, is making desks using structural techniques borrowed from Gott, which makes plastic coolers.

The new desk and accessories are also testaments to one more element of the Rubbermaid formula for success. "We work very hard inter-



Stanley Gault: Careful focus-group research helps make Rubbermaid a household word with consumers

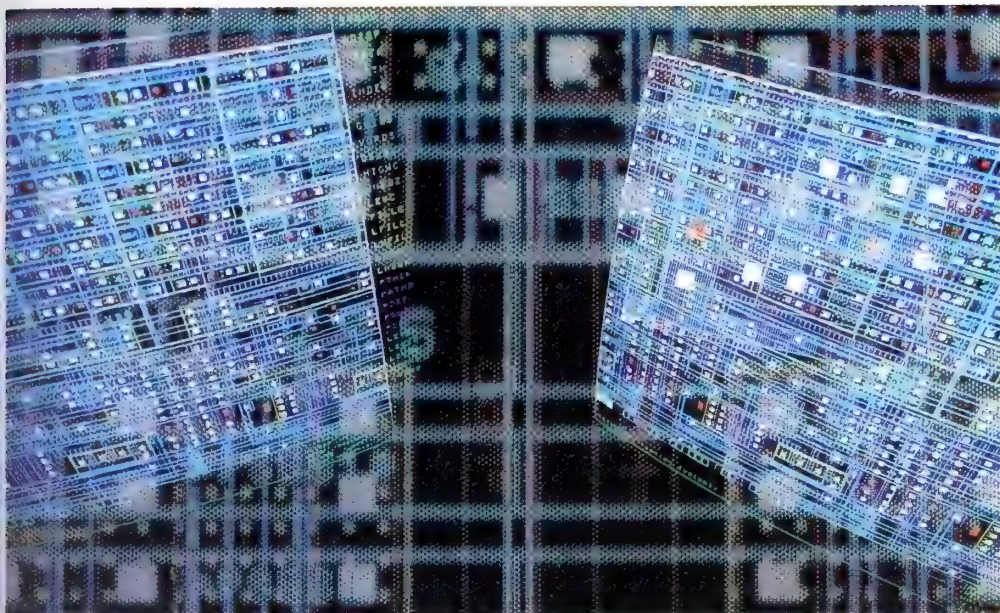
nally to drive our costs down," says Gault. One example: When costs of certain resins that are used to make desks jumped 52% last year, the company deftly switched to less expensive blends of petrochemicals. It also pinched a penny or two by putting out some sales brochures in black and white.

Gault says retailers are already eager for Rubbermaid's desks. Priced at a competitive \$275 or so, the product still meets the No. 1 Rubbermaid rule: It's useful, long-lasting, and inexpensive. Of course, the company still makes dustpans, in just the right colors.

By Maria Mallory in Wooster, Ohio

IT TAKES MORE THAN A GOOD IDEA

INTEL HAS FOLLOWED UP FAST WITH NEW CHIPS IN ITS 80386 SERIES



The 486 is Intel's bid to serve more powerful computers the way the 386 won PCs

COMPILE A LIST OF THE MOST IMPORTANT innovations that paved the way for modern electronics, and it would have to include the integrated circuit, the random-access memory, and especially the microprocessor—the “brains” of all but the largest computers. Intel Corp. executives had a hand in them all. In 1957, 11 years before co-founding Intel, Robert N. Noyce invented one of the first two integrated circuits. Intel then went on to pioneer memory chips and microprocessors.

Although Intel bowed out of some memory chips when Japanese rivals were dumping them in the U.S. market, the Santa Clara (Calif.) company still reigns as the king of microprocessors. And it has no intention of yielding ground in that market. “We’d really have to drop the ball to give those people an opening,” says Chief Executive Andrew S. Grove. “We are not in a ball-dropping mode.”

Moving fast and following up with ever-better designs are the key elements in Intel’s attempt to capitalize on one of the decade’s most successful innovations: the 80386 chip, which is used in IBM’s top-end personal computers and their clones. Since hitting the market in 1986, sales of the 386 family of products, which include related chips used to enhance the power of the basic microprocessor, have grown to an estimated \$1.3 billion annually—equal to Intel’s total revenues in 1986.

To build on that performance, Intel is now speeding up product development with lessons learned from the 386. One is getting manufacturing and design teams to work together. To pack the 386 with the computing power of a 380 mainframe, Intel needed a new chipmaking technology. But tinkering with a novel production line at the same time the chip was being created raised the worrisome prospect of geometric increase in the problems that inevitably bedevil new products.

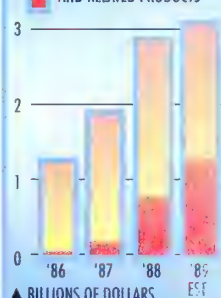
So Intel set up teams from both specialties and convened weekly GYAT—get your act together—meetings. There, engineers and designers ironed out potential problems as they cropped up. Things went so smoothly that Intel has applied the approach to other products. The record speaks for itself: Four years ago, it took the company an average of 64 weeks to take even a relatively simple new chip from conception to profitability. Intel set a goal of getting the time down to 52 weeks for small chips, largely through design-and-manufacturing coordination. One member of the 386 chip family made it in 48 weeks.

What’s more, Intel hadn’t even finished the 386 before starting on its next-generation model, the 486. That one could help Intel capture workstations and other powerful desktop computers the way the 386 enabled the company to grab the basic PC market. This time, Intel set up a program dubbed PDQ²: perfect design quality, pretty damn quick. And this time, computer software experts were recruited, too. The teams cooked up programs that helped design chips more efficiently. Not only was a workable version of the 486 assembled in just 2½ years—six months faster than the 386—but the prototype worked on the first try, rather than the third or fourth. The 486 should be in full production by fall.

That six months could be crucial. Rivals such as Sun Microsystems Inc. and MIPS Computer Systems Inc. are coming out with new chips featuring reduced instruction-set computing (RISC), which wrings more speed out of transistors by processing commands more efficiently. Although Intel is hedging its bets by making its own RISC chips, skillful engineering has given the 486 some advantages over the RISC approach. And getting the 486 out fast is essential if Intel is to keep computer designers from defecting to a new technology.

By Richard Brandt in Santa Clara, Calif.

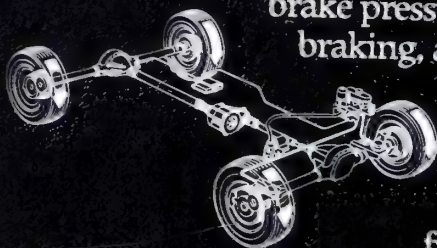
THE POWER OF INNOVATION
INTEL'S TOTAL REVENUES
REVENUES FROM THE 80386
AND RELATED PRODUCTS



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CARVING A NICHE IN SURGICAL TOOLS

DOCTORS LOVE
STRYKER'S
HIGH-TECH DRILLS
AND SAWS



WHEN JOHN W. BROWN LEFT SQUIBB Corp. to become chief executive of Stryker Corp. in 1977, he found himself running a sleepy maker of hospital beds. The company was still reeling from the death of L. Lee Stryker, Brown's predecessor, in a plane crash. And although Brown didn't know it at the time, the entire health care industry was on the verge of a crisis. As the federal government and private employers sought to clamp down on health care costs in the mid-1980s, hospital admissions dropped and demand for hospital beds softened.



The hospital-bed maker now gets 58% of its sales from products developed in the past five years

Against the odds, Stryker today is the picture of financial health, thanks largely to a steady stream of new products. Brown, who took the job at 41, spotted the changes sweeping the hospital supply business—before they cut into his company's profits. He deftly guided Stryker into higher-margin surgical equipment, an area where hospitals can't pinch pennies. By carefully developing tools that surgeons want and by shaving manufacturing costs, he has kept profits robust: Net earnings have grown 22% a year, on average, for the past five years, while return on equity has averaged 19%.

These days, 58% of Stryker's revenues of \$179 million come from products developed in the last five years. Among the biggest hits are

battery-powered saws and drills used by orthopedic surgeons. Doctors like the tools because they are tough and convenient—drills made by most rivals are pneumatic and require clunky air hoses. The cordless equipment has been so successful, the company recently added a line up of tiny drills for oral, facial, and small-joint surgery.

The company also jumped into the growing market for arthroscopic surgical equipment—special instruments used to perform joint surgery through a tiny incision. Because this type of surgery rarely requires an overnight hospital stay, the market hasn't yet been pinched by

health care cost-containment efforts. Up next: improved body part replacements. Last year Stryker got Food & Drug Administration approval to sell Dacron replacement ligaments for injured knees. And the company is testing a new coating compound for artificial hip joints. The compound may promote bone growth around the device, thus speeding patients' recovery.

Promising products aren't all that make Stryker tick. At the manufacturing level, the company has discovered that allowing its factory workers to specialize gives them more pride in their work. That helps improve quality and cut waste. Last year, Stryker set up a small plant to try a novel assembly system for motorized knee-exercisers. The line was split into individual work stations where employees are responsible for all aspects of production, including their own quality and inventory controls. As a result, the ratio of flawed products was half that at conventional plants. The new system is so successful, in fact, Brown eventually plans to implement it throughout the company.

Given Stryker's small size, you'd think the least of Brown's worries was growing too big. But you'd be wrong. To keep his company sharp, Brown periodically breaks it into even smaller operating units. He split off overseas operations into an autonomous unit in 1984. One year later, he divided the rest of the company into two divisions, separating surgical tools from hospital beds. "What we keep trying to do is split and focus," he explains. Brown figures that smaller operating divisions allow employees to specialize and to develop closer ties with customers. The closer contact helps keep new product ideas flowing. And new products are what kept Stryker from getting stuck in hospital beds.

By David Woodruff in Detroit

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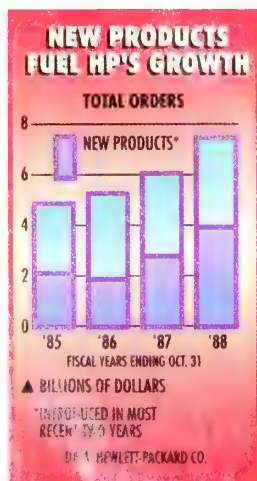
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KEEPING NEW IDEAS KICKING AROUND

HP'S FREE-THINKING
SCIENTISTS
HELP HONE ITS
MARKET EDGE



ONE SATURDAY BACK IN 1959, WILLIAM R. Hewlett, co-founder of Hewlett-Packard Co., stopped off at a company storeroom to pick up a microscope. Finding the equipment cage locked, legend has it, Hewlett broke open the latch and scribbled a note instructing the clerk never to lock the room again. Stifling innovation, he figured, was worse than risking theft.

Thirty years later, HP still imbues its culture with that sense of freedom. The company's labs are open to engineers around the clock. And HP encourages its 965 corporate researchers to devote 10% of company time to exploring their own ideas—and doesn't penalize them if they fail. "Intelligent failure is an acceptable mode of operation," says Frank P. Carrubba, director of HP Laboratories.

Whenever possible, HP keeps its operating divisions small, to speed up development of new businesses and to give participants a feeling of ownership. Researchers at one lab, for example, were kicking around the concept of vaporization in a coffee percolator when they realized the same principles could be applied to printers. Management freed the engineers to work on the project—and allocated the seed money to get it rolling. In March, HP sold its

disappointments in marketing new technology. The current effort started with Spectrum, a project aimed at uniting HP's three incompatible computer lines under a single design. There was no room for error: Development costs for the project were a staggering \$500 million. Meanwhile, archrival Digital Equipment Corp. was already outgunning HP with a more powerful machine.

Young included both manufacturing and marketing specialists early in the design stage. That enabled him to hold down production costs and hone product features to meet customers' requirements. The procedure worked so well with Spectrum, which was introduced in 1987, that Young adopted the system for all new projects. Now, executives at every level, from engineering to customer service, must sign off on each phase of a new product.

Results have been impressive. For the fiscal year ended Oct. 31, 1988, HP's profits soared 27%, to \$816 million, on revenues up 22%, to \$9.8 billion. What's more, over half the new orders received last year were for products introduced since 1987. But since then, HP has stumbled. Inventory-control problems have put a damper on recent earnings, resulting in flat profits for the quarter ended Mar. 31.



HP fosters an atmosphere of freedom by keeping its labs open around the clock

millionth printer based on the new thermal printing technology.

HP hasn't always been so successful at bringing its creations to market. HP product engineers have often churned out new products that drew acclaim from lab mates but didn't match customers' needs. In the mid-1980s, the company launched a \$100 million effort to build a desktop mainframe for the booming computer-aided engineering market. Unfortunately, HP failed to develop competitive software and was soon beaten by such startup companies as Mentor Graphics.

Through a more systematic approach, President John A. Young hopes to avoid similar

To maintain its innovative edge, HP is counting on cross-fertilization of scientific disciplines to tap new markets—such as combining research in sensors, chemical analysis, and electronics to produce new medical instruments. Last year, it funded the first of three research centers that will pursue basic research in medicine and electrical engineering, among other fields. The company also is remodeling its five-building research campus in Palo Alto, Calif., to create a town square. The goal is to encourage scientists to mingle and swap ideas. At the granddaddy of Silicon Valley, it seems, free thinking is still carefully cultivated.

By Jonathan B. Levine in Palo Alto, Calif.

FEW AMERICAN STEEL producers would top anyone's list of innovative companies. But consider Allegheny Ludlum Corp. Devotion to spotting new markets and developing products to fit them have made AL the nation's No. 1 producer of specialty steels. And that's only part of the story. AL has developed highly sophisticated manufacturing methods that keep costs down and profits up. Last year, the company's return on equity topped 37%, more than double the return for the BUSINESS WEEK Top 1000 and the best in the steel industry.

Unlike many competitors, AL didn't scrimp on research during the industry's tough years earlier this decade. Despite a heavy debt load after management led a 1980 buyout of the company from Allegheny International Inc., the research-and-development budget has increased sharply since then. More important, AL has created a system that helps it stay sensitive to what customers want. "The seedbed of our technological innovation is the market," says Robert A. Walsh, the company's senior vice-president of technical services.

To get a jump on the competition, AL market-development teams regularly visit customers, where they talk with engineers to find out what's needed. After visiting a convention of executives from companies that make heating equipment, one of AL's scouts reported that the businesses were worried about meeting impending heat-efficiency laws. AL researchers scoured their patents to find a corrosion-resistant alloy to help reduce heat loss. They quickly uncovered one alloy already being used in power plants. That enabled AL to start marketing the product in 1984—three years before the new laws were passed.

To make sure that it can convert new ideas into profitable products, AL encourages close cooperation between its research and production staffs. Unlike many companies, where researchers work at campus-like centers, 275 of AL's 400 researchers work at its factories. Here, they can experiment on novel manufacturing methods as they develop new products. That speeds the process and minimizes manufacturing glitches.

AL isn't afraid to take a long-term approach. Soon after federal laws were passed in 1975 requiring auto makers to equip new cars with catalytic converters, an AL development team found that carmakers were unhappy with the



After 14 years of development, AL's patented alloy for catalytic converters has won over Porsche and GM

ceramic honeycombs inside the converters. The honeycombs, which are coated with precious metals that capture noxious elements in exhaust gases, crack and wear out quickly. After 14 years of development, AL is now selling a patented alloy without such drawbacks, and the 1990 models of Porsche's 944 and General Motor Corp.'s Opel will use it in their exhaust systems.

The company has also patiently developed new manufacturing processes. For a decade, AL technicians have refined computerized systems that help hold down manufacturing costs. The systems analyze costs and compliance with specifications for all of AL's 145 products. In one case, the system alerted AL researchers to the fact that the company's melting process consumed too much nickel. That discovery alone saves about \$6 million annually.

Now, AL is eyeing an even bigger breakthrough. Its technicians are racing to commercialize an entirely new process for making steel. The system will eliminate some of the steps now used to convert molten steel into strips, chopping costs dramatically. But AL researchers say that's not even the best part. The new technology, which could be in place by the mid-1990s, will allow them to make exotic new alloys—and keep future sales red hot.

By Gregory L. Miles in Pittsburgh

SPECIALTY METALS THAT ARE SPECIAL INDEED

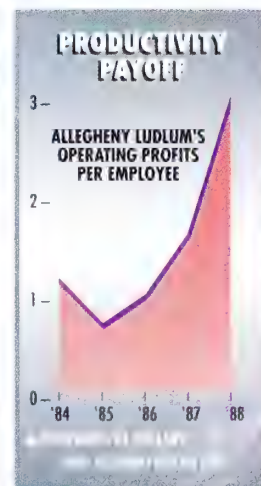
ALLEGHENY

LUDLUM'S ALLOYS

MAKE CUSTOMERS'

LIVES EASIER

MANAGING INNOVATION





HOW TO TEACH OLD PLANTS NEW TRICKS

SHREWD MOVES
ARE SQUEEZING
A LOT MORE OUT OF
FORD'S FACTORIES

AFTER A DECADE OF STUBBY PINTOS, FORD Motor Corp.'s sleek Taurus and Probe lines have become symbols of the company's resurgence. Consumers love the rounded, aerodynamic look. When the Taurus was launched in 1985, Ford's share of the U.S. new-car market was 18.8%. By the first quarter of this year, that slice had widened to 23.4%—the highest level for any comparable quarter since 1978.

The changes at Ford are more than just body work, however. Ford's success can be traced to the factory floor, where more teamwork and careful attention to detail have increased quality and enhanced customer satisfaction. But that's not all: Ford has managed to meet the booming demand for its products without adding a bunch of new plants. By keeping its existing factories busier, the company has also increased their efficiency—a major factor in making Ford the nation's low-cost automaker. In all, the resulting increase in productivity has helped boost North American car and truck capacity by 19% since 1985, to 4.4 million units.

Ford's reluctance to build costly new plants is easy to understand. From 1978 to 1982, its U.S. sales of cars and trucks plunged 49%, to 2.1 million units. Caught without fuel-efficient vehicles, the company endured painful losses from 1980 to 1982. As sales grew, Ford management feared new plants would have to be idled in the next downturn. "We plan our capacity for the best balance over the full course of the sales and economic cycle," says Ford Chairman Donald E. Petersen.

Ford did build one factory in Mexico, which can produce 73,000 cars a year. It also added shifts at two existing plants. But the lion's share of the increase has come from productivity improvements at existing facilities. The company used to turn out 50 LTDs an hour at two plants—its 42-year-old Atlanta facility and a Chicago factory that dates back to 1924. Now,

line speed has jumped to 65 Tauruses an hour.

Designing the Taurus to be built more easily accounts for most of the improvement. When Ford asked assembly-line workers to contribute ideas, one suggested making all bolts the same size. Saving employees from sifting through bins of different-size bolts and endlessly changing wrenches makes the job go much faster. In another procedure, workers had to reach through a small hole in the car door to tighten a bolt. Employees worried that they would drop bolts inside the door, either slowing the assembly line to retrieve them or leaving behind an annoying rattle for the future owner. The straightforward solution: enlarge the hole.

The company also analyzed its production system to alleviate logjams. The line for one assembly plant couldn't be operated any faster because cars in the paint shop, the next step, could not be moved along until their paint had dried; meanwhile the painters had nothing to do. Ford simply added more paint bays. And to keep machinery humming during double shifts, six days a week, the company has stepped up preventive maintenance.

When Ford did go for new production, it asked affiliates to share the risks. Mazda Motor Manufacturing (USA) Corp. builds the Probe for Ford alongside its own MX-6 at Flat Rock, Mich. Similarly, Ford Motor Corp. of Europe supplies the Scorpio, and Korea's Kia Motors Corp. makes the Festiva. These deals alone helped it expand the number of cars Ford could sell in North America by 317,000.

With car and truck sales now softening, Ford's effort to avoid idle factories has come full circle. Both Mazda and Nissan Motor Corp. plan to buy trucks from Ford in the 1990s for sale in the U.S. The additional business would be good news in any case. The fact that it's coming from two Japanese manufacturers only makes the triumph that much sweeter.

By James B. Treece in Detroit

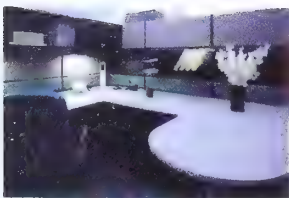


Ford has boosted its North American car and truck capacity by 19% since 1985

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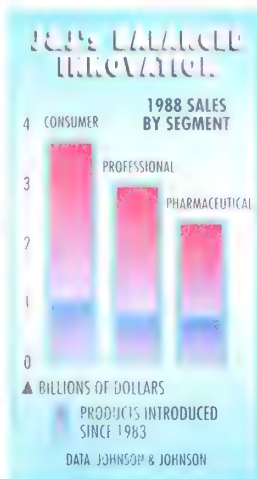
**JOHNSON
CONTROLS**



GOING OVER THE LAB WALL IN SEARCH OF NEW IDEAS

TO KEEP GROWTH
SIZZLING, J&J IS
BUYING HOT
PRODUCTS

MANAGING INNOVATION



CORRECTING AN OVERBITE USED TO MEAN having to spend years in gleaming steel braces. For countless teenagers, that image conjured up fears of social oblivion. No more, thanks to a subsidiary of Johnson & Johnson. After teaming up with Saphikon, a tiny Milford (N.H.) manufacturer, J&J is now selling transparent braces that hardly show.

The significance of clear braces goes far beyond lowering adolescent anxiety. It's a good example of how J&J is increasingly looking beyond its own laboratories to find new ideas. Many of the company's hottest new products come from technology it has acquired or from joint ventures and licensing agreements. To continue its double-digit annual revenue



J&J funds studies in photopheresis—in use here at Philadelphia's University of Pennsylvania Hospital

growth, J&J may have to step up that pace. "Technology has become so sophisticated, broad, and expensive that even the largest companies can't afford to do it all themselves," says Robert Z. Gussin, J&J's vice-president for science and technology.

The company's own labs aren't idle. To fight bureaucracy and encourage entrepreneurship, J&J is divided into 171 companies. Complicated as that sounds, it seems to work: J&J got 28% of its sales last year from products introduced within the past five years. Revenues from these items were distributed among the company's three divisions—consumer products, professional products, and pharmaceuticals—in roughly equal proportion to their size. Recent innovations include a birth-control pill that simulates the menstrual cycle by changing hormone levels—and which thereby produces fewer side effects.

But these days, research at J&J is just as likely to involve looking over other peoples' shoulders as peering through a microscope.

Take J&J's Acuvue disposable contact lenses. In 1983, the president of a J&J subsidiary that makes contact lenses heard about a Danish manufacturer that had figured out how to make lenses so cheaply they could be discarded after a few wearings. Within weeks, J&J struck a deal to buy the technology. Last year, it rolled out Acuvue in the U.S. Another idea in the works: Sucralose, a low-calorie sweetener being jointly developed by J&J and Britain's Tate & Lyle PLC. Unlike the sweeteners now available, Sucralose can stand up to baking—good news for diet-conscious cookie lovers.

Universities are favorite hunting grounds for J&J. Like other drug companies, it supports basic research and then steps in at the final development stage. That was the case with Retin-A

an acne cream that may also repair wrinkles. It was developed by University of Pennsylvania researchers. Another promising example is photopheresis, a cancer therapy that doesn't have the adverse side effects of traditional cancer treatments. Developed by a researcher at Columbia University, it uses a drug activated by ultraviolet light to treat some forms of leukemia. The drug permeates white blood cells and is activated when some blood is drawn from the patient and exposed to light. Then, the blood is returned to the body.

Not all alliances have gone smoothly. In 1983, J&J hooked up with Amgen Inc., then a fledgling biotechnology company,

to market the drug erythropoietin. Called EPO, the gene-spliced medication developed by Amgen stimulates the production of red blood cells and can be used to treat severe anemia. The potential market: \$2 billion. But in March, J&J asked for an injunction delaying marketing of the drug until a dispute over joint-venture terms is settled. J&J lost its bid for court relief, but the spat isn't likely to be resolved soon.

The conflict may well make J&J wary of future partners, but executives say they are still committed to the joint-venture strategy. To encourage future exchanges, the company is working to build ties to yet another scientific community: the government. In May, 50 J&J staffers visited government labs in Los Alamos, N.M. In addition to rubbing elbows with government researchers, they reviewed such projects as catheters with bacteria-resistant coatings and a new ophthalmological laser for cataract surgery. If Gussin has his way, one day such devices may bear J&J's label.

By Joseph Weber in New Brunswick, N.J.

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ON ALLTEL.



By outperforming our peers, DJ and S&P,
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With a three-year total annual return of 29 percent, we've put quite a long distance between ALLTEL and all the others.

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Total return comprises, of course, any increase in the value of the stock, together with the annual dividends. Last year our

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Twelve Months Ended Dec. 31, 1988

Assets \$2.2 billion
Revenues and Sales \$1.1 billion
Reported

Net Income \$125 million
Earnings Per Share \$2.91
*From Operations**

Net Income \$134 million
Earnings Per Share \$3.13
Dividend Rate \$1.72
Average Common

Shares Outstanding ... 42.3 million

**Excludes One-Time Adjustment*
Ticker Symbol: AT Listed on the New York
and Pacific Stock Exchanges.

ALLTEL Corporation, 100 Executive
Parkway, Dept. B, Hudson, OH 44236.

dividend was raised again, for the 28th consecutive year, this time by a whopping 13 percent, the biggest boost in ALLTEL history.

With the acquisition of CP National Corporation we became a billion-dollar company, with phone service in 25 states, and non-regulated operations expanding from cellular telephone and long-distance service and equipment supply into air traffic control, naval defense systems and natural gas. For a closer look, write for our latest annual report.

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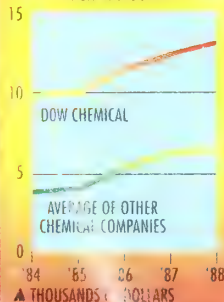
THE COMPANIES

ADDING SOME SPICE TO AN OLD FORMULA

DOW'S PURSUIT OF NEW FIELDS IS PAYING OFF HANDSOMELY

DOW DOW STAYS AHEAD

SPENDING ON R&D PER EMPLOYEE



THE BASIC-CHEMICAL BUSINESS CAN BE A wild ride. Just ask Dow Chemical Co., the industry's second-largest player after Du Pont Co. Dow's profits nearly doubled between 1987 and 1988, to \$2.4 billion. But check back a few years, and you'll find a roller-coaster record of earnings peaks and plunges. Dow wasn't alone. Swings in the dollar and the price of petroleum buffeted the entire industry.

Now company officials think they've hit on a way to take some of the spills and chills out of Dow's financial performance. By carefully nurturing new product ideas and stalking strategic acquisitions, the company has dramatically reduced its dependence on the commodity end of the chemical business. Specialty chemicals and consumer products already add up to some 45% of Dow's \$16.7 billion in revenues, up from just 15% a decade ago.

To help those businesses grow, Dow has developed an incubator system for new ideas. For starters, the company doesn't slight research and development. It currently spends the equivalent of \$13,910 per employee on R&D, nearly twice the industry average. The company also earmarks \$15 million a year for its scientists to pursue their own ideas—even ones that don't sound like big money-makers. "If too soon you go under the sharp pencil of an accountant, too soon you can justify suspending work," says Dow lab director Stanley F. Spangenberg.

Dow doesn't stint on converting research into products, either. The company has formed an independent, six-person Innovation Development Dept. to identify commercial opportunities where Dow's basic research might bear fruit. The payoff is reflected in new patents: Dow received 473 in the U.S. in 1988, compared with 330 five years ago.

Ceramic compounds are one example of how the process works. In 1982, Dow devoted \$500,000 to basic research on these supertough compounds, which are as strong as steel but weigh only half as much. Two years later, the innovation team climbed aboard after spotting lucrative applications for the materials, including armor for military equipment. This year, the company will produce 100,000 pounds of the stuff. And Dow now has Defense Dept. contracts worth more than \$1 million to perfect ceramic armor.

It's not unusual for Dow to supplement inventiveness with an occasional, well-timed ac-

quisition. One of the more promising of these is drugmaker Richardson Merrell, which Dow got for \$260 million worth of stock in 1980. Since then, the once-sleepy company has introduced such new products as Seldane, a prescription antihistamine that doesn't cause drowsiness. Sales of Seldane alone should top \$400 million this year, and an over-the-counter version is expected soon.

Ironically, the biggest factor threatening Dow's effort to reduce its dependence on basic chemicals has been scorching growth in its old line business. In the early 1980s, competitors such as Monsanto Co. and Hercules Chemical Co. fled some segments of the business. But Dow hung on to become the nation's major supplier of such commodities as chlorine and caustic soda. To improve profitability, the company closed plants and trimmed its work force. Now that demand has recovered, Dow is pros-



Strong as steel at half the weight: Dow has \$1 million in Defense Dept. contracts to perfect ceramic armor

pering. Last year, operating income at its chemical division shot up 115%, to \$1.5 billion.

Officials at Dow know that that kind of growth doesn't always last. And they're counting on Dow's new businesses to pick up the slack when it's over. In fact, the company expects its specialty chemicals and consumer products to account for 55% of revenues by 1995. To meet that ambitious goal, Dow must need to keep its innovation development team working overtime.

By David Woodruff in Detroit



Clear vision.

In new product development, the shortest distance between the design team's vision and market introduction often determines success.

The Racal group of electronics and security companies exercises that theory in providing technology used by more than 150 nations. Management is down the hall from research and development, clarity of design team's vision is preserved, and critical decisions are made where information is most precise—at the product line level.

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ingenious American
designs that are
making the world
take notice

A SALUTE TO INGENUOUS DESIGN — AND
MANUFACTURERS THAT MAKE A DIFFERENCE

PST

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PRODUCT DEVELOPMENT

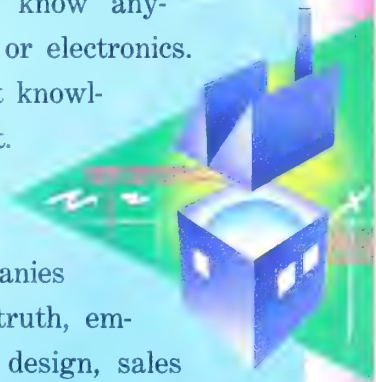
THE PRODUCT IS WHERE IT ALL COMES together. It's the embodiment of science and technology, a blend of art and craftsmanship. It's what innovation is all about.

Think about a simple spoon. This lowly product does its job so well that it has gone unchanged for centuries. But there's a lot more to it than shape. The material has to be strong, easy to clean, and water-resistant. Plastic for disposable spoons, stainless for everyday use, silver for that special occasion. Each material places different demands on the designer. When it has to be made. It can be carved or hammered, cast or stamped. The choice depends on the material, the precise shape, the number to be made, and the

cost. And somebody has to design and build the machines that make the spoon.

Then think about a Boeing 747 or a laptop computer. They embody enormously complex technology. Yet the consumer doesn't need—indeed, doesn't want—to know anything about aerodynamics or electronics. The product must tap that knowledge without brandishing it.

In the end, a product is what a company makes it. For too long, U.S. companies lost sight of that simple truth, emphasizing marketing over design, sales over manufacturing. Out came not a product, but a vehicle for revenues—for a while, anyway. But that's changing. More and more companies are emphasizing good design and all that it implies—a good product.



DESIGNED IN AMERICA

DESIGN HAS ALWAYS BEEN AN ELUSIVE concept. But it's one that's getting a lot more attention lately in corner offices of U.S. companies. With their markets flooded with imported products, manufacturers have learned a hard lesson from their competitors. Sure, good design makes a product appealing. But it also means products that are inexpensive, easy to use, durable, and reliable. In short, good design means quality.

To many, design is nothing more than what meets the eye: the sleek shape of a Corvette taking a fast corner, the bold lure of a shiny red Braun coffee pot. And appearance is indeed the first step. It tempts the consumer to come closer and perhaps buy.

But design is more than skin-deep. It reaches back to how a product is assembled and manufactured. It means reducing the number of parts and simplifying assembly by replacing complicated fasteners with pieces that simply snap together. It means substituting light plastic materials for heavy steel structures. It means coming up with a product that lends itself to the most efficient manufacturing processes.

Take Ciba Corning Diagnostics' new medical-testing system, the 550 Express chemistry analyzer. Careful simplification has cut the size and cost of the unit nearly in half. Or look at the new Samsonite Oyster luggage. It's molded polypropylene, so it's light, strong, and inexpensive to make.

Plastics also figure prominently in the design of the Case IH 7100 tractor and General Motors Corp.'s GM200 family of minivans. The plastic body on the Case tractor cuts tooling costs by 75%. The minivans' plastic body panels are fastened onto the frame with adhesives. They're lighter than metal, but the body is just as tough. And tooling changes are cheaper.

Successful products are also designed to be used. Check any big electronics store and you will find dozens of phones for sale. A few will stand out by their looks, but try holding the receiver between the ear and shoulder, as we all do when talking and taking notes. It usually hurts. The Becker EC telephone is sculpted to be comfortable nestled near the neck. It has a rubber-lined receiver that is soft against the ear. The curved forms of the receiver and the base allow them to fit tightly together.

This awakening to design is good news for independent design houses that still do most of the leading-edge work. For too many years, many of the best designers survived by working for European or Japanese manufacturers. Now, such names as RichardsonSmith, ID Two,

**MORE U.S.
COMPANIES
ARE MAKING
MAGIC**

frogdesign, and Matrix Product Design are identified with a growing number of excellent American products.

At the same time, more and more companies are hiring top design talent for their in-house shops. Black & Decker Corp. is one that is gaining wide recognition for well-made kitchen appliances and cordless tools. Behind many of them is an in-house team headed by Gary Van Dursen.

Increasingly, too, in-house designers are working closely with outside firms. A collaboration between Samsonite's Renato Castelli and FM Design's Richard Miles produced the Oyster luggage line. Mike Cooper of Microsoft Corp. worked with both Matrix Product Design and ID Two to develop its wonderful-to-hold computer mouse.

The effort is paying off. Products by U.S. companies are showing up more and more in international design competitions. And these days, some pretty important homegrown contests are bringing new cachet to U.S. design.

The Industrial Design Excellence Awards program offered by the Industrial Designers Society of America rewards the most creative of its members every year. Juries composed of designers choose ID magazine's Annual Design Review winners in such categories as consumer products, equipment, and graphics. Design's most elite and difficult win is a spot in the permanent collection of New York's Museum of Modern Art.

American corporations are now taking these contests very seriously. That's because they are learning that winning can translate into higher sales

and bigger profits. And the U.S. products are holding their own against the competition. As the examples on the following pages show, design is a statement in the marketplace: Made in America can stand for the same kind of quality that Made in Japan and European-designed have come to represent. Take a look.

*By Bruce Nussbaum
in New York*



L48 Solar Lantern

BY HEDDA BEESE AND CHARLES ASH OF
HOGGRIDGE ASSOCIATES FOR BP SOLAR

This portable, water-resistant lamp is designed to be equally at home in the African bush country or Yel-

lighting surface is incorporated into the plastic molding to minimize the number of seals and gas-



stone National Park. Solar cells convert sunlight into electricity that's stored in batteries capable of powering a watt fluorescent bulb for up to four years. The lantern's

kets and to reduce tooling expenses. Designed to look as tough as it is, the solar lantern can operate maintenance-free, even in rough country, for up to five years.



Migent Pocket Modem

BY RON CLEMENTS OF
DESIGNFOUR FOR MIGENT

The tiny modem is small enough to be carried in a shirt pocket and sleek enough to fit into the curve of a hand. Specific colors and tactile surfaces combine to indicate functions clearly. The modem consumes little power and can be plugged into the rear of most computers. With laptops, it runs on a 9-volt battery.



GM200 Minivan

BY THE GM DESIGN CENTER FOR
GENERAL MOTORS

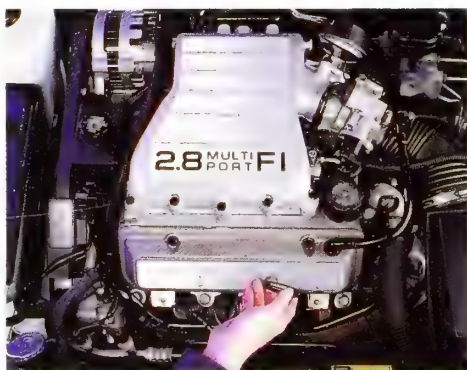
It's a new vehicle that incorporates a series of radical changes. To cut down on manufacturing costs, the minivan will use more plastic body panels than any vehicle before it. Special

adhesives bond them to the structural frame. The van is wrapped in glass that's coated with a new kind of tinting to prevent interior temperature buildup. The steep angle of the front windshield required the designers to use a new type of wiper-fluid system: Spray nozzles inside the wipers direct fluid at the window as they move back and forth across the glass. Inside, two vents sweep air across the window for defogging. Finally, each seat can be removed separately for repairs, with amazing pop-out simplicity.

1988 Chevrolet Beretta Engine

BY THE GM DESIGN CENTER FOR
GENERAL MOTORS

Take a look under the hood of a typical car and you'll find a mess of tubes, wires, and spouts. This one is different: a simple, clean design for the increasingly complex automobile engine. Easy-to-grip caps enclose wide fluid openings to make pouring easier. The cables, hoses, and wires are routed to avoid eye-crossing clutter. It's one of the first examples of Detroit moving design beyond the body and the driver's seat into the guts of a very old machine.



The Little Tikes Activity Gym

BY KEVIN AKER (IN-HOUSE) FOR
RUBBERMAID'S LITTLE TIKES SUBSIDIARY

This all-plastic play environment is for kids three years old and up, indoors or

out, rain or shine. A rotational molding process produces durable, double-walled plastic parts with smooth, rounded corners and molded-in bright colors that resist fading and chipping. A total of six panels lock together in 10 minutes, without any hardware. Each panel provides a different kind of climbing surface, with several large holes for hiding and crawling.



Encon Visitor Spectacles

BY PAUL SPECHT OF GOLDSMITH YAMASAKI
SPECHT FOR ENCON

These great-looking, high-performance goggles are comfortable and can even accommodate your regular eyeglasses. A snap-together assembly system elimi-

nates the need for high-priced skilled labor. Design for manufacturability, as well as for comfort and good looks, sharply lowers manufacturing costs.



Microsoft Mouse

BY MATRIX PRODUCT DESIGN, ID TWO, AND MIKE COOPER (IN-HOUSE) FOR MICROSOFT

The design was distilled from extensive tests of 50 models and 2 working prototypes to come up with the most ergonomically sound and efficient features. It contains a number of innovations, including a traction ball placed at the front, near the fingertips, that provides superior hand control. Asymmetrical buttons that suggest the differing importance of functions. Microswitches offer both tactile and audible feedback. And a high-gloss finish keeps the mouse squeaky clean.

Sonin Electronic Measuring Device

BY PENTAGRAM DESIGN AND ANTHONY PSTELTEN (IN-HOUSE) FOR SONIN

Three bright eye-catching boxes together form a sophisticated ultrasonic measuring system. They emit ultra-

those sound signals to 150 and 250 feet, respectively. The swiveling lid on the black Sonin turns the de-



mic signals that bounce off walls to measure distances to a quarter of an inch. The black Sonin measures up to 60 feet, the white Sonin and the yellow Sonin amplify vice on and off and also protects a small liquid-crystal display. Distance is shown in feet, inches, or millimeters. The Sonin also computes volume.



Case IH 7100 Magnum Tractor

BY GREGG MONTGOMERY OF MONTGOMERY DESIGN INTERNATIONAL AND RALPH LANPHERE (IN-HOUSE) FOR JI CASE

The all-plastic body reduces tooling costs by 75%. The streamlined shape of the hood and cab help the tractor move efficiently through crops and shed water and dust. The seat adjusts automatically to the weight of the driver. The Magnum is one of the safest tractors of its size.



"Management must guide the forces of change..."

— John W. Teets, Chairman



For a copy of Greyhound's latest annual report, write to Public Relations, 1618 Greyhound Tower, Phoenix, Arizona 85007

The Greyhound Corporation has been recast. From the crucible of change has emerged a new Greyhound, tempered for strength and reshaped for the future.

The job of management always has been to see the company not as it is, but as it can grow to be. The new Greyhound is the result of this vision, built through a five-year restructuring program.

Hard choices were faced; tough decisions were made. Subsidiaries with annual sales of \$3 billion,

including the company's nationwide bus line, were divested. At the same time, new businesses with excellent growth and profit potential were established or acquired.

For example, Purex household and laundry products were added to the personal care and packaged foods brands of Greyhound's Dial Corporation. Princess Cruise Lines, the official cruise line of Walt Disney World, was launched. Dobbs food service for air



ers was acquired, complementing Greyhound's
g airport and food service businesses. General
s' RTS transit bus manufacturing and parts opera-
as purchased to expand Greyhound's top-ranked
ty coach-building business.
oday, Greyhound's four business segments —
mer products, services, transportation manufac-
and financial — produce revenues at a \$3 billion
l rate.

With the restructuring of Greyhound's core busi-
nesses completed, management is concentrating on
further improvement of operating returns. Change is
inevitable, and management must guide the forces
of change to create value for shareholders.

At Greyhound, we believe in renewing the com-
pany day by day.

The Greyhound Corporation



Navgraphic Loran Track Plotter

BY ID TWO FOR TRIMBLE NAVIGATION

Its smooth, wavelike curves suggest a nautical metaphor. Yet its insides are strictly high tech. The Track Plotter is the first computer to take data on a boat's orientation and show it on a screen. Speed, heading, and drift

are all plotted. Daily progress is displayed, as well. Fifty routes can be stored in its memory, and an individually programmed alarm will sound if the boat approaches a reef or other hazard, or a navigational marker.



Samsonite Oyster

BY RICHARD MILES OF FM DESIGN, RENATO CASTELLI (IN-HOUSE) FOR SAMSONITE

Both the shell and the latches of this luggage series are made of injection-molded polypropylene. This allows the Oyster to be durable, lightweight, and economical. The "ski-boot" latches are unusual and add strength. Large

wheels make it easy to roll; the handle snaps back into the case when it is not being used. A special gasket construction system permits the user to seal out rain, spills, dust, dirt, and other grave perils of travel.



PHOTOGRAPHS BY
(CLOCKWISE FROM TOP) JACK VAN ANTWERP, TED MORRISON (2)



550 Express Chemistry Analyzer

BY RICHARDSON SMITH AND IN-HOUSE STAFF FOR CIBA CORNING DIAGNOSTICS

So well-designed is this bench-top laboratory apparatus that its appearance not only reveals how the complex chemical analyzer works but also beckons the user to touch and operate it. Through deft miniaturization and simplification of parts, the instru-

ment is half the size and cost of competing lab analyzers.

LANguage Professor

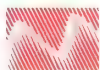


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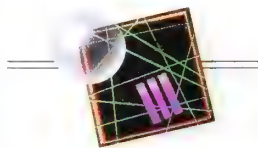
WHAT'S WRONG WITH AMERICAN manufacturing? "If you really understood the situation," says John Zysman, co-director of the Berkeley Roundtable on the International Economy, "you wouldn't sleep very well at night."

He and other experts recite a long litany of shortcomings: outmoded and inflexible factories, inefficient organizations, a mass-production mindset, low-skill workers, technologically illiterate management, and very near-term financial horizons. That's without mentioning high capital costs, government regulations, and a penchant for chasing breakthrough products instead of refining those already in production.

Yet without top-notch factories, all the research and development in the world won't produce a steady stream of wealth to enrich a company and a nation. That truism is starting to sink in. You can sense it now in a few companies—two or three dozen major corporations plus a handful of savvy small firms. They see only one alternative to holding their own against foreign competition: Fold up entirely. So they are making the necessary commitments. And their successes are inspiring others to rethink the way things get made.

While many executives looked to automation as a technological fix, it has become clear that this is only part of the answer. What's needed,

**At Lockheed,
cooperation
with designers
cut production
time on jet
parts by 96%**



as well, is a complete redefinition of the design and manufacturing process. Some fresh concepts are helping. U.S. companies are starting to get the hang of fresh approaches such as design for manufacturability (DFM) and concurrent engineering. These slash the time it takes to get a new idea into production—and then catalyze ongoing refinements.

With DFM, the product is engineered for easy assembly—by reducing the number of parts or shunning screws for snap-fit fasteners. NCR Corp. used DFM on its latest point-of-sale terminal and fashioned a system that can be put together in less than two minutes—blindfolded.

Concurrent engineering, meanwhile, involves simultaneous development of both the product and the process to make it. The factory types do their thing even as the product is taking shape. Northrop Corp. is even giving manufacturing engineers veto power over designs. Ford Motor Co. is a big proponent, too: "The more design and production become seamless, the better [off] we'll be," says John P. McTague, vice-president for research.

Another advocate of concurrent engineering is the Defense Advanced Research Projects Agency (DARPA). It has launched a \$100 million five-year program dubbed DICE—for DARPA Initiative in Concurrent Engineering. Its objective is to trim the concept-to-production cycle by at least 50% for electronic systems—more in areas that are less technology-intensive. Although DARPA's primary concern is the defense industry, DICE will develop new computer tools, similar to today's computer-aided engineering systems, that can be used in any industry.

Other interdepartmental barriers are falling with the spread of shared data bases in the computer-integrated enterprise. Shop-floor changes are fostering closer cooperation, too. That's how Lockheed Corp.'s Calfab sheet-metal facility slashed design and production time by 96%, to just two days. Even new cost-accounting techniques can stimulate teamwork. A key one: evaluating such intangibles as the increase that may come in market share if production were more flexible.

Nonconformist financial managers are even questioning the wisdom of offshore sourcing of parts. A survey for the National Tooling & Machining Assn. found that U.S. companies routinely overlook the "hidden" costs of going offshore: shipping, which can add 5% to 15% paperwork and communications, 3% more; extra inventory in the supply line, 5% to 10%—and as much as 35% for design revisions.

With flexible manufacturing and more enlightened management-labor attitudes, adds Burton H. Klein, professor emeritus of economics at California Institute of Technology, companies such as IBM, Hewlett-Packard, Deere Black & Decker, and 3M "have been able to reduce their total costs by 30% to 40% in a few years." And it doesn't have to take a bottomless pocketbook. One medium-size company, CalComp Inc., pulled it off with a grand-total investment of just \$300,000.

By Otis Port in New York, with bureau reports

I · N · N · O · V · A · T · O · R · S

THE MANUFACTURERS

THE FIRST ROBOT PICKS UP A COMPONENT and snaps it into the base of what will be an IBM Proprinter. Just minutes later, the eighth robot to work on the product snaps the lid on a finished computer printer.

Robots may be the most arresting feature of IBM's huge plant in Lexington, Ky., but automation is only part of the story. Rather, it's the end result of a top-to-bottom reorganization. "What we've done here," says Anilash C. Joshi, manager of the facility, "is a total transformation of a business."

When Big Blue launched its \$350 million overhaul of the plant in 1983, the factory had been cranking out Selectric typewriters for 22 years. The computer giant has since retrained nearly all of its 4,200 employees. But the most crucial changes came at the white-collar level, the way the company designs and manufac-

ture hold a strong position, too. Quality is far better, and the plant is posting 10%-plus annual gains in productivity. Labor plus overhead have slipped to just a third of total expenses, down from about half. More than 80% of the components used are made in the U.S., and fully one-third of the output is exported.

Even permanent-magnet motors, a mundane component now produced mainly in Asia, may soon be shipped to Japan from Kentucky. Every typewriter has four of these fist-size motors. IBM figured they would continue to be used for the foreseeable future, so it developed automated machinery to make them.

The key to product development at Lexington is what IBM calls "early manufacturing involvement." Every new product has a manager who oversees both design and manufacture, assisted by an engineering team drawn from the plant's various departments. This team defines the product to assure that it is designed for automated production. For example, the machines are assembled from the bottom up, because it's hard for robots to add parts from the sides.

Another cardinal rule is to prune the "parts count" to a minimum. IBM's current typewriters have only one-fifth as many parts as the old Selectrics did. Screws and bolts are virtually *verboten*—the Proprinter has none at all. Finally, to avoid having to adjust the robots when switching from one model to another, IBM puts as many of the same parts as possible in different products. Most printers and typewriters use identical frames and paper-feeding mechanisms. As a result, the plant can economically make products in small lots. Sometimes it cranks out runs of only 10 units—say, Spanish-language typewriters bound for Argentina.

One of the astonishing things about this new-age factory is its vertical integration. "If we are buying everything everyone else is buying, where is our advantage?" asks Joshi. From a single plastic-molding machine in 1983, the company now boasts a roomful of 84. Joshi quips that "the ideal thing would be to have a petroleum plant," so IBM could make the plastic pellets it molds into keyboards and other parts.

That won't happen. But the remark underscores a salient aspect of modern manufacturing: The factory is a dynamic, evolving entity. Lexington's transformation will never be over.

By Zachary Schiller in Lexington, Ky.

BIG BLUE'S BIG OVERHAUL

IBM HAS REVAMPED THE PLANT—AND THE ORGANIZATION

CHART

IBM CORP.

PLANT LOCATION

Lexington, Ky.

MAIN PRODUCT

Printers and typewriters

OUTPUT VOLUME

More than 1 million a year

OVERHEAD COSTS

Less than 25% of total costs

DIRECT LABOR

Less than 10% of total costs

DELIVERY TIME

3-15 days



Keyboard untouched by human hands: IBM's assembly is totally automated

ures the 1 million typewriters and printers at Lexington ships each year.

The upshot is that IBM continues to dominate the U.S. market for full-size typewriters, with a 44% share, according to market researcher International Development Corp. Its Proprinters



WINNING BACK THE WORK THAT GOT AWAY

STILL SOURCING
OFFSHORE? IEC'S
SPEEDY FLEXIBILITY
IS CHANGING MINDS

IEC ELECTRONICS CORP.

PLANT LOCATION
Newark, N.Y.

MAIN PRODUCT
Printed circuit boards

OUTPUT VOLUME
Varies widely

OVERHEAD COSTS
160% of direct labor

DIRECT LABOR
7-10% of production costs

DELIVERY TIME
3-30 days

SINCE THE DAYS OF HENRY FORD, A conveyorized production line has been the badge of a modern factory. Yet when a customer recently offered such a conveyor—gratis—to Roger E. Main, the president of IEC Electronics Corp., he didn't hesitate: Thanks, said Main, but no thanks. "Flexibility is the name of our game," he explains. A conveyor on the factory floor could only hamper the way tiny IEC serves its motley mix of masters—by shuffling production schedules and rerouting work-in-progress, pushing it from place to place in racks.

Rearranging the shop floor is a frequent routine because IEC is a contract manufacturer that specializes in "stuffing" semiconductors into other companies' printed-circuit boards—6,000 a day for one current customer, 40 for another. On any given day, some 400 different products are in production or on order. Send IEC a rush job, with chips and other materials furnished, and delivery of finished circuit boards begins in as little as three days.

Speedy, responsive service is vital in IEC's continuous battle with its Asian rivals. Main says that each of his company's 125 customers, including such stalwarts as Compaq Computer, Data General, Digital Equipment, and Polaroid, should feel that IEC is "really an extension of their factory."

What appears to be a slow but steady repatriation of work formerly done overseas warms Main's heart. Some customers, he notes, have been badly burned by the hidden costs of offshore sourcing. "Typically, the OEM [original equipment manufacturer] prices what it would cost him to make the board, then he gets outside quotes. Generally, the offshore bids are 60% to 65% of his own price." That seems irresistible—which explains why Asian suppliers dominate the cutthroat electronics job-shop business, estimated at \$15 billion worldwide. U.S. producers account for maybe 15% of that total.

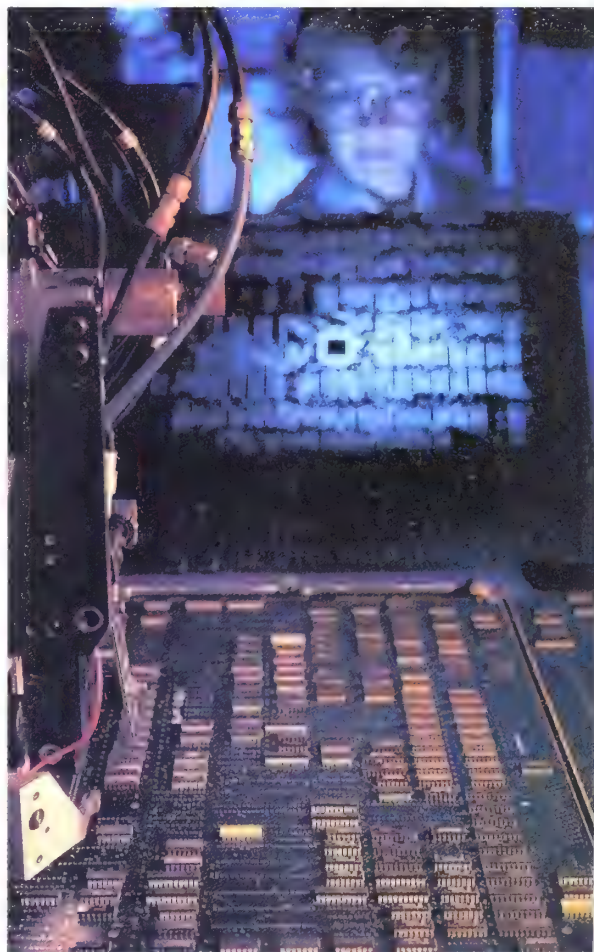
But the Asian bid price is often just the start. "Quality outside Japan isn't nearly as good as people think," notes Main. Reject rates average 5% to 8%, he says, whereas IEC's "fall-out" rate runs less than 0.05%. In addition, by the time an engineering change works its way through a transpacific supply line, six to eight weeks' worth of circuit boards may have to be scrapped. IEC usually implements design changes within 24 hours.

Tack on these and other hidden costs, Main says, and the real cost of overseas sourcing "will probably rise to only 10% less than what the OEM could do it for himself. But come to an onshore contractor like IEC, and we can generally do 10% better than offshore." And that's

not all: IEC's 22 process engineers meticulously examine every circuit-board layout before it goes into production, and they often spot ways to improve its manufacturability or function.

Main's message seems to be winning converts. Over the past five years, revenues have shot up almost 40% annually, to a projected \$5 million this year, and net profits have held steady at more than 6%.

Still, IEC ranks a distant second or third to industry leader SCI Corp., which should approach the \$1 billion mark this year. Some basic management differences account for some of this spread. By IEC fiat, no one customer can represent more than 25% of sales, whereas SCI gets roughly 40% of its revenues from IBM, though that's down from 70% several years ago. Also, IEC does all of its production out of

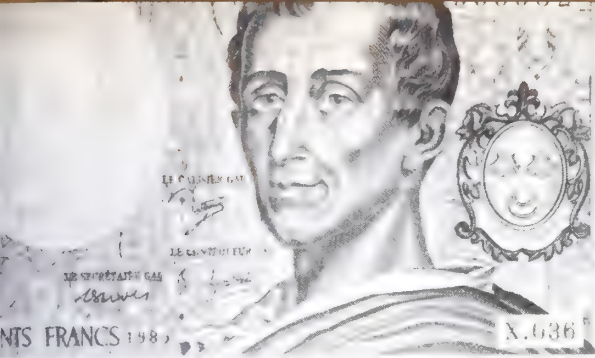


Send IEC a rush job, and delivery of finished circuit boards begins in as little as three days

Newark, N.Y., about midway between Rochester and Syracuse, while SCI has several domestic and foreign plants.

To help its 800 workers cope with incessant change, IEC has developed a clever color-coding scheme that guides manual assembly. It's as simple as a child's paint-by-the-numbers kit. But it does the job, and it's certainly flexible. Roger Main wouldn't have it any other way.

By Ira Breskin in Newark, N.J.



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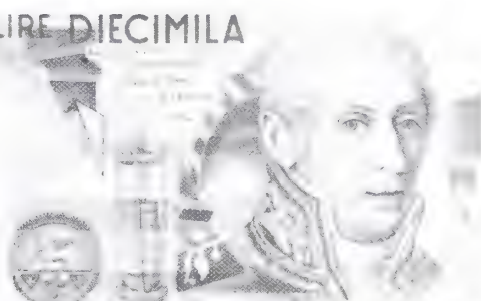
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SIMPLER DESIGNS, SIMPLER FACORIES

CALCOMP: AN
APOSTLE FOR
STREAMLINED
MANUFACTURING

PRODUCT DEVELOPMENT

CALCOMP INC.

PLANT LOCATION

Anaheim, Calif.

MAIN PRODUCT

Computer plotters

OUTPUT VOLUME

26,000 units a year

OVERHEAD COSTS

10% of sales

DIRECT LABOR

5% of sales

DELIVERY TIME

7 days

ALL MANUFACTURING EXPERTS AGREE: Before the first piece of automated equipment is ordered, the shop floor should be simplified and streamlined. Frequently, the gains from this are so large that automation becomes unnecessary. CalComp Inc. learned that lesson the hard way—in a last-ditch struggle to avoid disaster in the early 1980s. "It was either do or die," says President William P. Conlin.

Now that the Anaheim (Calif.) unit of Lockheed Corp., which builds plotters that print computer drawings for engineers and architects, has been restored to financial health, Conlin has become a missionary of manufacturing simplicity. He and other company officials regularly speak at industry gatherings, and CalComp offers a free videotape and brochure.



CalComp's plotters print computer drawings for engineers and architects

Nearly 900 senior executives at companies big and small, from Texas Instruments Inc. to Zypex Inc., have already requested the kit.

That response is hardly surprising. For an investment of less than \$300,000, some of which was spent on removing an existing transfer line from the shop floor, CalComp has achieved stunning results. Since late 1985, productivity has gained 50%, quality is up 40%, and revenues have risen 62%—to \$425 million last year. At the same time, production costs have fallen 30%, inventory-handling costs have dropped 65%, and work-in-progress has plunged 90%.

Conlin got his inspiration from *World Class Manufacturing*, a 1986 book on Japanese-style production written by consultant Richard J. Schonberger of Management Research Corp. Its simple philosophy: Design simpler products to be built by simpler methods.

So CalComp's latest Drawing Master plotter, which the company began shipping in April, has only 95 parts—down from 494 in its predecessor. The \$15,000 unit spits out drawings

twice as fast as the models it succeeded, which sell for \$27,500 and up. And CalComp still rakes in a 40% margin.

On the shop floor, CalComp chucked its straight, long transfer line so workers could be grouped in a compact U-shaped assembly area. This improves communication and reduces the distance that work-in-progress travels as it is pushed from station to station on industrial carts. Quality control was eliminated as a separate function. Instead, each person is responsible for checking the work received. Whenever anyone spots a major defect, work stops until the cause is found and fixed.

The changes have translated into higher demand for CalComp's products. Although archival Hewlett-Packard Co. still commands 40% of the plotter business, market researcher Data

quest Inc. reports that CalComp's share has climbed to 25%, from 15% in 1986. And CalComp does even better with big plotters that use ink pens, capturing 55% of that market last year vs. 12% for HP. "We now look to CalComp as the competitor for us in the U.S.," admits Scott McClendon, general manager of HP's San Diego printer division.

Still, Conlin says there's plenty of room for improvement. His next major task: Cut the product development cycle to about 18 months from the 30 to 36 months it now takes to move from concept to production. As part of the effort, designers planning the next plotter are already collaborating with outside suppliers. The purpose is to let suppliers plan ahead rather than wait for final blueprints.

"We're really instilling change in manufacturing," Conlin declares. He just hopes more senior executives heed the lesson of simplicity. "Manufacturing," he concludes, "is either going to be our downfall or our salvation."

By Patrick E. Cole in Anaheim, Calif.

Quality is Job 1.

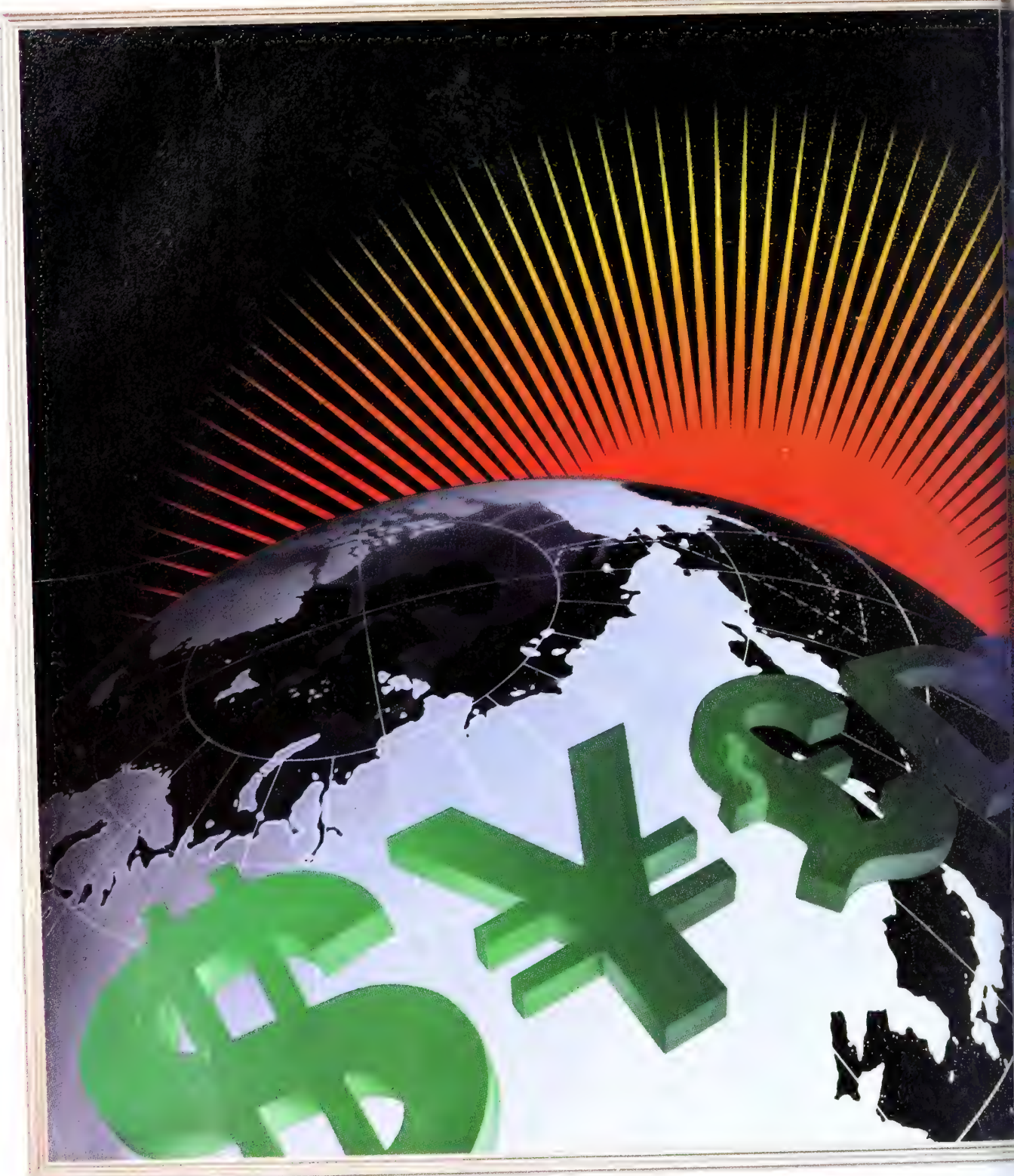
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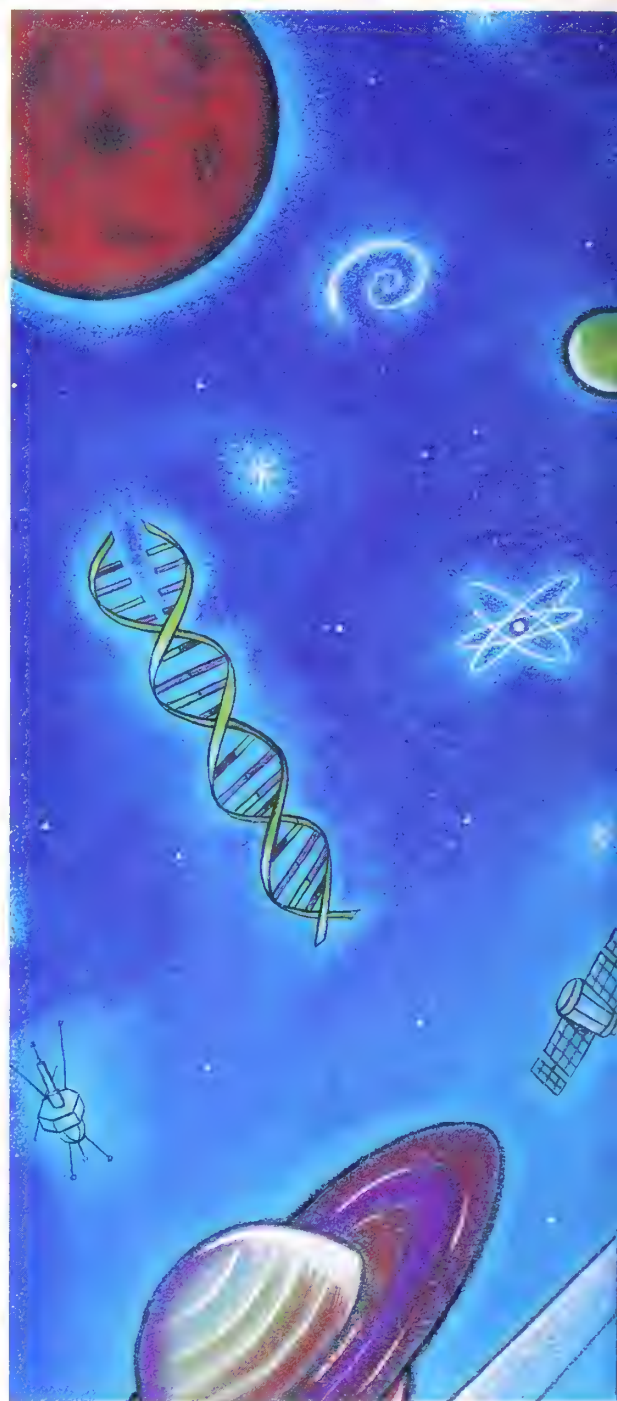
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WHERE THE MONEY FOR THAT NEW IDEA COMES FROM NOW

COMPETITIVENESS. IT'S THE BUZZWORD OF alarm in Corporate America. And among the many reasons for declining international clout, the mathematics of finance ranks high. One study shows that U.S. companies must pay five times what their Japanese rivals pay to raise capital. The cause: an anemic national savings rate. The effect: An American company can afford to invest in a product or technology only if it is expected to be profitable in three years. But a Japanese competitor can wait an astonishing 12 years to break even. Is it any wonder that U.S. executives are criticized for being short-sighted? Yet many innovative companies aren't flinching before the daunting financial odds. Instead, they're finding new sources of capital and adroitly exploiting new financial links that bode well for the future.



FINANCING



INNOVATION

WITHOUT WALL STREET...

HIGH TECH IS STRIKING DEALS,
FOREIGN AND DOMESTIC

DURING WALL STREET'S GO-GO YEARS OF the 1960s, Polaroid was a symbol of Corporate America's technological prowess. Today, it's a different sort of symbol for the roaring 1980s. Polaroid is cutting back on research and development to 7.6% of sales from 8.5% last year. It's also eliminating several long-term projects with uncertain paybacks, such as fiber optics. Instead, money is going to pay for \$1 billion in debt used to buy back stock in a successful effort to avoid a hostile takeover.

Of course, as the sheen has worn off its instant-photography business, Polaroid Corp. hasn't exactly been a font of innovation recently. But as a symbol of how investors have cooled to high-technology companies and the risks inherent in betting on untried innovations, Polaroid will do just fine. Xerox Corp. and IBM are also among the 1960s' glamour stocks whose prices now command only a fraction of the earnings multiples of 90 they once boasted. In fact, the Hambrecht & Quist High-Tech Index of 175 companies fell 19.5% over the past two years, while the Standard & Poor's 400-stock index, mostly mature industrial companies, rose 5.8% (chart, page 157). The H&Q index stocks were selling recently at 19.3 times earnings, compared with 13.5 for the S&P 400.

Wall Street has plenty of reasons for disenchantment with high tech. Investors have been repeatedly bloodied pursuing the latest fad, most recently in the biotech industry, where Genentech Inc.'s clot-busting drug, Activase, has fallen short of the hype. Meanwhile, investors have been lured by lush profits in once unglamorous old-line industries such as cans and food processing, through leveraged buy-outs and debt-financed restructurings. And betting on next month's takeover target has proved far more rewarding than investing in the next decade's potential scientific breakthrough. No wonder some worry that by shun-



ning high-technology companies, investors may be financing Corporate America into a slow but relentless economic decline.

Fortunately, entrepreneurs and the executives of high-tech companies are far from throwing in the towel. Instead, they're showing considerable skill in finding money. Some are selling their companies to Japanese and other foreigners. But many more American entrepreneurs are bringing foreign investors in as partners—an innovative financing strategy that while troubling to some U.S. executives, may augur well for the future international competitiveness of leading-edge American companies. Says Joseph A. Graziano, chief financial officer at Sun Microsystems Inc.: "Because of the absolutely lousy state of the equity markets, especially for technology stocks, people are having to think very differently."

THE MOST SEVERE PRESSURE HAS BEEN on young companies, as reflected in the moribund initial public offering (IPO) market. Investors soured on high-tech startups in 1983 after the euphoric start of the bubble market, and IPOs have been on a roller coaster ride ever since.

Rapidly growing high-tech companies have traditionally relied on equity financings to p



r growth. After all, they need mounds of cash to keep paying for increased manufacturing costs, a rising payroll, and continuing product development. Yet even a brand-name company like Compaq Computer Corp., which had a stellar return on equity of 31.3% and a growth rate of 69% last year, finds its stock selling at slightly less than the multiple for the S&P 400. Established companies are not immune to the stock market's whims. True, they finance innovation with internal cash flow. But investors

are enamored of reaping short-term profits from debt-financed takeovers, LBOs, and other leveraging schemes. "High leverage discourages long-term investment," notes George N. Hatsopoulos, chairman of Thermo Electron and a leading analyst of the cost of capital in America. Leveraged companies siphon off cash to pay off debt and stick with technologies that promise a quick return.

WALL STREET DOES REWARD COMPANIES that can provide a consistent payoff on innovation. Allegheny Ludlum Corp., a \$1.2 billion specialty-steel maker, is a stock-market darling. Some 16% of last year's sales came from internally developed products that Allegheny didn't make 10 years ago. AL's obsessively market-driven managers are very choosy about what projects they will fund—no pie-in-the-sky visionaries here. "We play God regarding what is a worthwhile investment," says CEO Richard P. Simmons. "We are always focused on bottom-line results."

Even big high-tech companies that built their reputations on fundamental technological innovations, such as Digital Equipment Corp., are feeling pressure to soft-pedal expensive long-range projects with uncertain futures. Digital spent \$1.3 billion, or 11% of sales, on R&D in 1988. But management would prefer to spend even more—especially on long-term R&D projects. "I'm happy if the payoff doesn't come for 5 or 10 years," says Samuel H. Fuller, Digital's vice-president for research. But the markets, he complains, tend to force everything into a 6-to-12-month time frame.

Some companies see an opportunity in the low prices that Wall Street accords high tech. Financing techniques honed during the recent consolidation of the oil, food, and other mature industries are increasingly prevalent in the high-tech area. Mergers and acquisitions, LBOs, and even hostile takeovers are picking up. In one friendly deal, Hewlett-Packard Co. bought Apollo Computer Inc. for about \$500 million.

Here again, foreign investors are a major factor. Japan's TDK Corp., for instance, paid 22 times earnings—\$200 million—for Silicon Systems Inc., a chipmaker whose stock was selling for only 10 times earnings. Robertson, Stephens & Co., the San Francisco investment bank, is working on five deals for Japanese companies eyeing U.S. acquisitions in industries ranging from genetic engineering to computers. Says Craig J. Foley, managing director of Chancellor Capital Management: "Japan Inc. and Southeast Asia Inc. have a low cost of capital and a willingness to bet on the future, while the American public market is focused on the next quarter's earnings."

Foreign investors' patience may mean that, one day, profits from some of America's most productive research will go overseas. But there is a side benefit for companies that are effectively using their foreign investors as partners. "There is such interdependence now among companies and countries that it's getting hard-



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THE POWER IS ON

HIGH-TECH STARTUPS TO WATCH

This table ranks the 25 fastest-growing startups in the CorpTech data base of 30,000 high-technology companies. It includes private companies that were formed during or after 1979, have more than 25 employees, and receive at least 75% of their revenues from high-technology products. They are ranked according to average annual growth in employees. The data are from Corporate Technology Information Services, Woburn, Mass.

RANK	COMPANY Location	PRINCIPAL PRODUCTS	SALES \$ MIL- LIONS	EMPLOY- MENT	YEAR FORMED	LAST YEAR'S JOB GAIN %	AVERAGE ANNUAL JOB GAIN %
1	SIMPSON ELECTRIC Elgin, Ill.	Multimeters, ohmmeters, voltage meters	NA	500	1986	6	125
2	MICROSCIENCE INT'L. Sunnyvale, Calif.	Winchester disk drives	100	950	1982	18	118
3	WORDPERFECT Orem, Utah	Office automation software	178	241	1979	55	112
4	ZYTEC Eden Prairie, Minn.	Power supplies	52	600	1984	-8	100
5	SIPEX Billerica, Mass.	Integrated circuits	31	400	1986	33	100
6	TUSONIX Tucson, Ariz.	Ceramic capacitors, filters	10	850	1981	41	94
7	COMPTONIX Guntersville, Ala.	Printed-circuit boards	29	509	1984	28	84
8	COMPUADD Austin, Tex.	IBM-type personal computers	241	650	1982	100	81
9	SOMERSET TECHNOLOGIES New Brunswick, N. J.	Web-coating and drying equipment, extruders	60	450	1984	0	75
10	VIKTOK TECHNOLOGIES West Chicago, Ill.	Printed circuit boards, custom mfg. services	55	300	1986	50	75
11	REMEC San Diego, Calif.	Microwave components	21	465	1983	9	66
12	MIPS COMPUTER Sunnyvale, Calif.	Computers	40	380	1984	43	63
13	BANYAN SYSTEMS Westborough, Mass.	Network operating systems	47	423	1983	53	60
14	COGNISEIS DEVELOPMENT Houston, Tex.	Seismic processing systems	23	173	1987	2	57
15	METAPHOR COMPUTER Mountain View, Calif.	Information retrieval and analysis systems	52	450	1982	50	56
16	ORBITAL SCIENCES Fairfax, Va.	Space vehicles and related equipment	60	450	1982	400	56
17	PERFORMANCE SEMI. Sunnyvale, Calif.	Integrated circuits	NA	300	1984	20	50
18	SYQUEST TECHNOLOGY Fremont, Calif.	Removable disk drives and cartridges	NA	400	1982	60	50
19	NEXT Palo Alto, Calif.	Workstation microcomputers	NA	250	1985	150	50
20	RIVERSIDE ELECTRONICS Lewiston, Minn.	Printed-circuit boards	22	300	1984	0	50
21	BROADWAY & SEYMOUR Charlotte, N. C.	Banking software	29	430	1981	43	47
22	TECHNICAL & MGT. SVCS. Calverton, Md.	Helicopter and missile components	14	358	1982	74	44
23	McDATA Broomfield, Colo.	Computer-networking controllers, equipment	54	352	1982	7	44
24	VERIFONE Redwood City, Calif.	Transaction microcomputers	NA	400	1981	45	44
25	STELLAR COMPUTER Newton, Mass.	CAD/CAM workstations	13	215	1985	43	43

Without Wall Street

er and harder to say what is the nationality of the company or product," says Compaq Chairman and longtime venture capitalist Benjamin M. Rosen. High-tech companies that are linking up with foreign capital are getting more than money—they're getting a global focus early in corporate life.

Look at Komag Inc., which makes thin-film high-capacity disks for computer disk drives. Asahi Glass Co., Japan's largest glass maker, has bought 11% of Komag for \$23 million over the past several years—and has options to buy another 9%. Asahi is also sharing its valuable manufacturing technology to lower Komag's production costs. It kicked in an additional \$34 million to form a Japanese-based joint venture (owned 50% by Komag, 40% by Asahi, and 10% by UVAC, another Japanese company). And Komag keeps all product-marketing rights outside of Japan. "As the world becomes smaller, I saw the only way to be viable was with a tie to Japan," says Komag Chairman Tu Chen.

GIANT AMERICAN COMPANIES ARE going the "corporate partnering" route, too. Small-growth outfits are linking up with American Telephone & Telegraph Co., IBM and Digital, to name just a few. Entrepreneurs are willing to sell equity to these corporate behemoths—and give up some independence—to get a higher price than that offered by the public markets. Corporate giants also exchange marketing and distribution muscle for access to new technology.

One growth company brings it all together: Sun Microsystems Inc. It's a leading engineering-workstation maker. Revenues are expected to reach nearly \$2 billion in 1989—up 80% over last year. Profits are expected to jump another 50%. Yet Sun's stock sells at a multiple of only 15 times earnings, while the price-earnings ratio of, say, the Walt Disney Co. is nearly 22 times earnings. Why? Sun's 6% net profit margins are narrow by computer-industry standards. Those anemic margins are a result of the company's decision to spend 13% of sales on R&D and its pedal-to-the-metal strategy of pursuing market share over profits. With Wall Street wary about that, "we don't close any financing avenues," says CFO Graziano.

They sure don't: In January, 1988, Sun struck a deal with AT&T to sell a 15% equity stake to the telephone giant over three years at a 25% premium over market prices. Sun also has joint-venture product-development agreements with France's Schlumberger, Holland's Philips, the Japanese/American joint venture Fuji Xerox, and others. And it has

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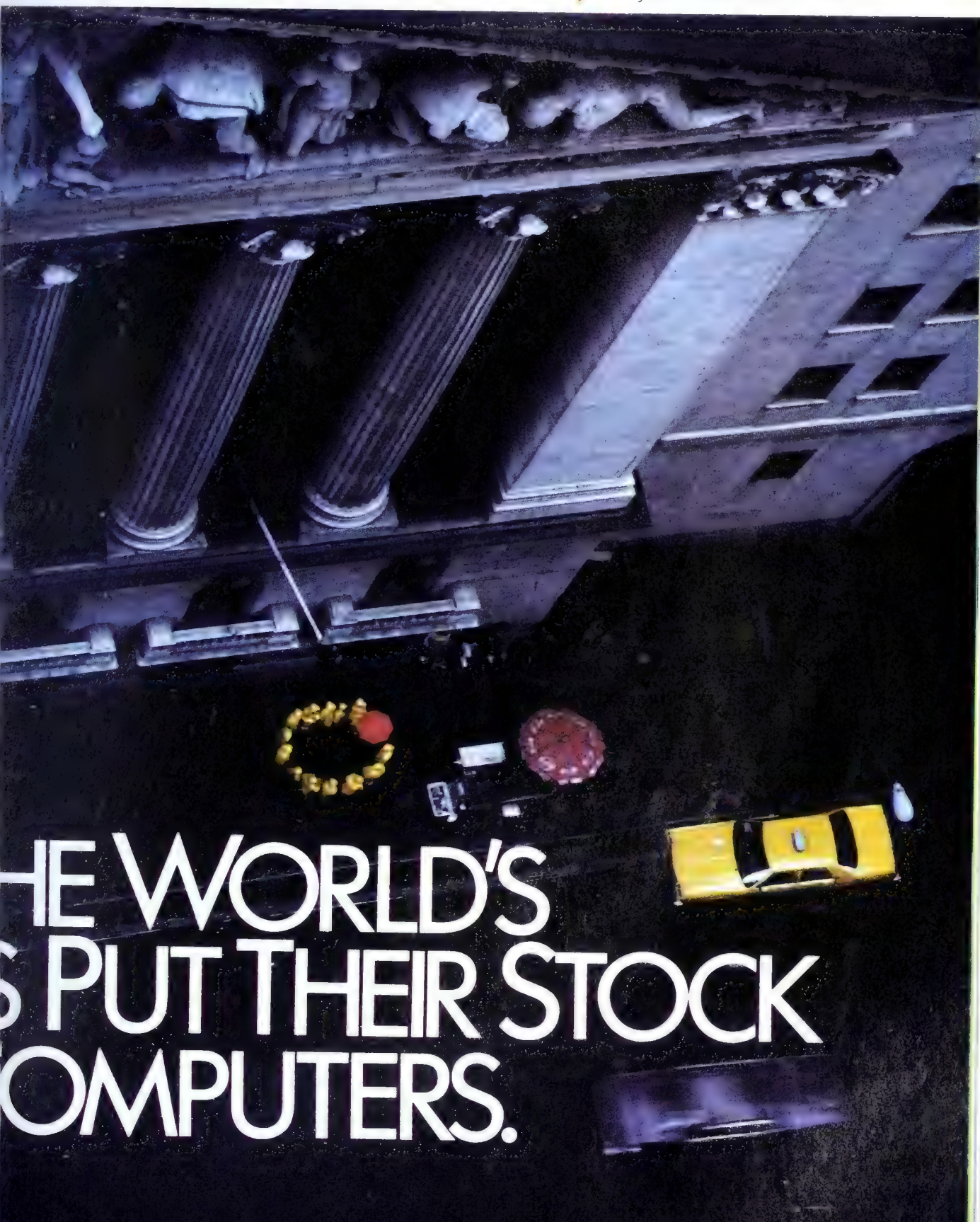


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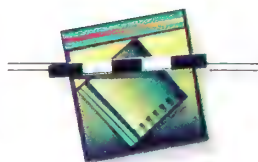


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licensed its core processor technology to five semiconductor manufacturers. The competition among them has reduced Sun's price for the chips it buys back from the chipmakers to close to their costs. And CFO Graziano says he's considering taking Sun's Japanese subsidiary public sometime in the future.

Clearly, times are tough in high tech. But Sun's example points to the future. If they are to keep their competitive edge, the successors to Polaroid, IBM, and Xerox will have to be as innovative in finance as they are in technology.



Despite a rough climate for new stock issues, the U.S. is still funding the nation's best and brightest entrepreneurs eager to push the commercial frontiers of technology, and American high-tech companies could yet emerge as formidable international competitors. Then Wall Street will reward the innovators with another boom, bidding stock prices to new highs.

By Christopher Farrell in New York, with Jonathan Levine and Joan O'C. Hamilton in San Francisco, Keith H. Hammonds in Boston, Gregory L. Miles in Pittsburgh, and bureau reports

IN VENTURE CAPITAL, FEW ARE FLYING SOLO ANYMORE

Whatever happened to the good old days in venture capital? Five years ago, investors could seed startups with a few million dollars, then nurture manufacturing and marketing with two or three additional infusions of cash. A few years later, they could get their money out by offering shares to the public at a sterling 18 or 20 times earnings. Venture funds with returns topping 35% were commonplace.

Not anymore. Soaring startup costs and an unreceptive market for initial public offerings have made that scenario as outdated as the Twist. The flow of new cash into U.S. venture coffers remains relatively strong—\$2.8 billion last year, compared with a five-year average of \$3.3 billion. The problem is, the money no longer goes very far. These days, venture capitalists must find novel ways to apply leverage to their own investments just to achieve the 20% returns that used to be considered barely acceptable. "The cost to capitalize a startup from seed through public offering has gone beyond the scope of venture capital," says Anthony Sun, a partner in Venrock Associates.

Startups everywhere are looking to stretch invested capital by selling technology rights and seeking corporate backers to bring in cash. To cut development costs, they're more willing than ever to form joint ventures or trade stock warrants for plants or equipment.

Take chipmaker Sierra Semiconductor Corp. in San Jose, Calif. To fund initial production and foreign marketing, it called on corporations and even government agencies in Singapore and the Netherlands. All told, Sierra used \$18 million in U.S. venture capital to attract an additional \$158 million in equity and other funding.

Similar techniques have always been the norm for biotechnology companies because of the high cost of testing and marketing new pharmaceuticals. But thanks to soaring startup expenses, leveraging is now common in

such industries as medical equipment and computers. Capital-intensive products and the necessity of setting up a field-support system recently forced Ardent Computer Inc. to spend \$50 million to get to the manufacturing stage. That compares with about \$8 million for Apollo Computer Inc. in the early 1980s and only \$3 million for Prime Computer Inc. a decade earlier. If venture capitalists had to foot the entire bill today, returns wouldn't justify the investment. "If a deal takes more than \$10 million, we start looking for leverage from day one," says John R. Dougery of Dougery, Jones & Wilder.

The trend is motivated by more than cold cash. The globalization of technology markets means that startups must often link up with European or Asian partners for help in navigating distribution channels overseas. Last year, Exabyte Corp., a Boulder (Colo.) maker of computer tape drives, turned to Kubota Ltd., a Japanese tractor maker. Kubota set up manufacturing in Japan for Exabyte's drives, paid cash for a stake in the company, and promised ongoing royalty fees for distribution rights in Asia.

Even if companies can scrape up enough capital to get started, there's no guarantee for venture investors. A foul market for initial public offerings has curtailed the preferred method for cashing out. And companies that are able to

go public at all are finding that high-tech stocks no longer command premium prices.

Add to that the increased competition among venture funds, and the result is eroding returns. By the end of 1987, funds started in 1982 had shown an average loss of 2% on the value of their investment, according to Venture Economics Inc. That compares with a gain of 33% for funds started in 1979. Barring the unlikely return of a robust new-issues market, venture investors will have to make their money the new-fashioned way: leverage.

By Jonathan B. Levine in San Francisco

HOW ONE STARTUP USED FINANCIAL LEVERAGE

Financing was hard to find when chipmaker Sierra Semiconductor got going in 1984. So, over four years, it supplemented conventional financing from U.S. venture-capital firms with a variety of sources.

Source	Amount (millions of dollars)
Sequoia Capital and other U.S. venture-capital firms	\$18.2
Equity and convertible debt from governments in Singapore and the Netherlands	101.5
Government and private loans, leases, and financial guarantees	48.5
Equity from Borg-Warner, Litton Industries, and Tellabs	7.8
TOTAL 1984-88	\$176.0

DATA: SIERRA SEMICONDUCTOR CORP.



A CLASSIC IN ITS OWN TIME.

DODGE DYNASTY, \$12,295. With its elegant look and generous room for six, Dynasty is a contemporary classic. With front-wheel drive, power steering and brakes. And our exclusive 7 year or 70,000 mile protection Plan*. You'll also find available features like a V-6 and a new 4-speed electronic Ultradrive automatic, the most advanced transmission you can buy. And with prices starting at only \$12,295, Dynasty is the best value in its class.** Dodge Dynasty for 1989. A classic value. A timeless classic. **770**



**THE NEW SPIRIT
OF DODGE**
THE PERFORMANCE DIVISION OF CHRYSLER MOTORS

See this powertrain limited warranty and its restrictions at dealer. Equipped sticker price comparisons vs. Ward's full-size segment. Sticker price excludes tax, destination charge and options.

Based on comparably equipped sticker price comparisons vs. Ward's full-size segment. Sticker price excludes tax. **BUCKLE UP FOR SAFETY.



NOT LONG AGO, MICHIGAN WAS JUST A KID IN THE PLASTICS INDUSTRY.

The kid sure has come of age. Why, in the mid-1980's alone, Michigan accounted for half of all new plastics-related jobs in the Great Lakes States and one-quarter of the plastics job growth nationally. And not simply because of the increased use of plastics in the auto industry ■ Many industries draw on the expertise and resources of Michigan's growing number of plastics application centers. Fabricator support industries are already in place. Resin producers benefit from nearby chemical feedstocks. Then there's Michigan's state government: committed to providing the best possible climate for expansion and growth ■ The right markets are here, too. As Carl Haas, President of Blue Water Plastics, puts it, "Michigan is a great environment for expansion. We could not service our customers if we were in Illinois or Tennessee. We need to be where the engineering centers are"

■ There are many other reasons to consider Michigan. Call (517) 373-8495 or simply write Doug Ross, Director, Michigan Department of Commerce, 525 W. Ottawa, Lansing, MI 48909

MY, HOW WE'VE GROWN.



The future. We're making more of it here.



THE NEW VENTURES

OPPORTUNITY DOESN'T ALWAYS KNOCK. Sometimes it swims. Two years ago, an African clawed frog kicking around in a murky water tank presented Michael A. Zasloff the chance of a lifetime. Zasloff, then a top geneticist at the National Institutes of Health, had cut open the frog

for another experiment. But after sewing it up and putting it back in the tank, he noticed the incisions were healing remarkably despite the bacteria-filled water. Exploring why, he discovered that the frog harbored a powerful substance he dubbed magainin, the Hebrew word for shield. His breakthrough could spawn a new generation of drugs to attack a wide range of infections and diseases.

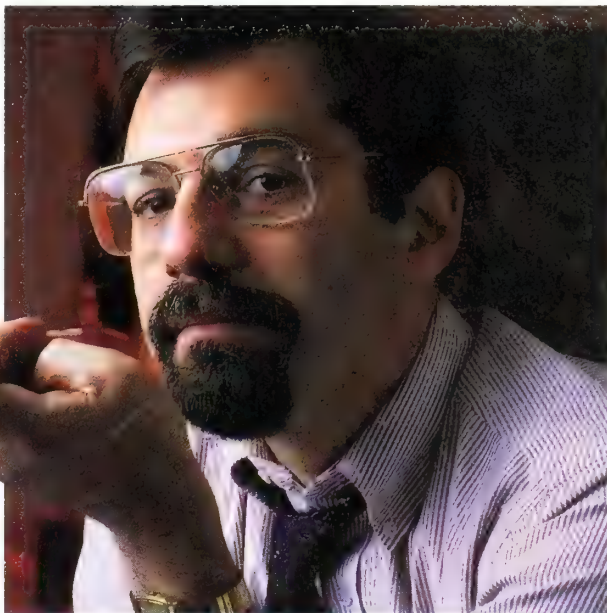
Zasloff, 44, is trying to commercialize the discovery with a startup called Magainin Sciences Inc. in Fort Washington, Pa. Although a number of big drug companies wooed him, he turned them down last year with venture capital and HealthCare investment firm. Zasloff wanted to

avoid big-company bureaucracy and turned up to HealthCare CEO Walter H. Steinberg. When Steinberg introduced him to Barry A. Berkowitz, then a vice-president at SmithKline Beckman Corp., the pair clicked. Says Berkowitz, "We got so excited about the science, we had to kind of work each other away." Berkowitz is now CEO and Zasloff is scientific adviser.

Since the cost to develop a new drug can top \$100 million, the company will need more money. Steinberg has rounded up help from Advent International, a Boston venture firm, and Ingworth Management Ltd., a London fund. Meanwhile, Berkowitz is chasing drug companies for development and marketing partnerships. Eventually, Magainin wants to go public. Potential partners have plenty of reason to like it. Some scientists compare Zasloff's find to Alexander Fleming's chance discovery of penicillin. "This is something that's truly novel," says DeWitt Stetten, former deputy director of science at NIH. Magainins appear to have much broader applications than antibiotics do.

The substance mercilessly attacks bacteria, fungi, amoebas, and parasites. Magainins even appear to battle certain human cancer cells and are being tested against AIDS and other viruses.

Going from frogs to humans is a big leap. But scientists now have found magainins in the human brain and digestive system. That may help explain why people don't get sick from



Zasloff's startup is looking for ways to exploit the breakthrough substance he found in a frog

natural bacteria in foods. Researchers working with Zasloff want to know whether magainin failure plays a role in human infections.

New drugs from Magainin Sciences could be only years away. Berkowitz expects to seek approval within a year from the Food & Drug Administration for human tests of drugs to treat infections of the skin, eyes, and mucous membranes. But producing the drugs cheaply will be tough, since current techniques would result in a cost of thousands of dollars a dose.

With Berkowitz looking after the company's business development, Zasloff is still studying magainins—as a professor at the University of Pennsylvania School of Medicine and chief of genetics at The Children's Hospital of Philadelphia. If his discovery pays off, he'll be financially set for life. But more important, he could realize every researcher's dream: to add his name to the roster of major medical pioneers.

By Joseph Weber in Fort Washington, Pa.

MAGAININ: THE PENICILLIN OF THE 1990s?

IT SPEEDS HEALING
AND COULD SPAWN
NEW DRUGS TO
FIGHT DISEASE

MAGAININ SCIENCES

LOCATION
Fort Washington, Pa.

FOUNDED
1988

BUSINESS
Commercializing new
infection-fighting
substance

THE NEW VENTURES

TEACHING PCs HOW TO TALK TO EACH OTHER

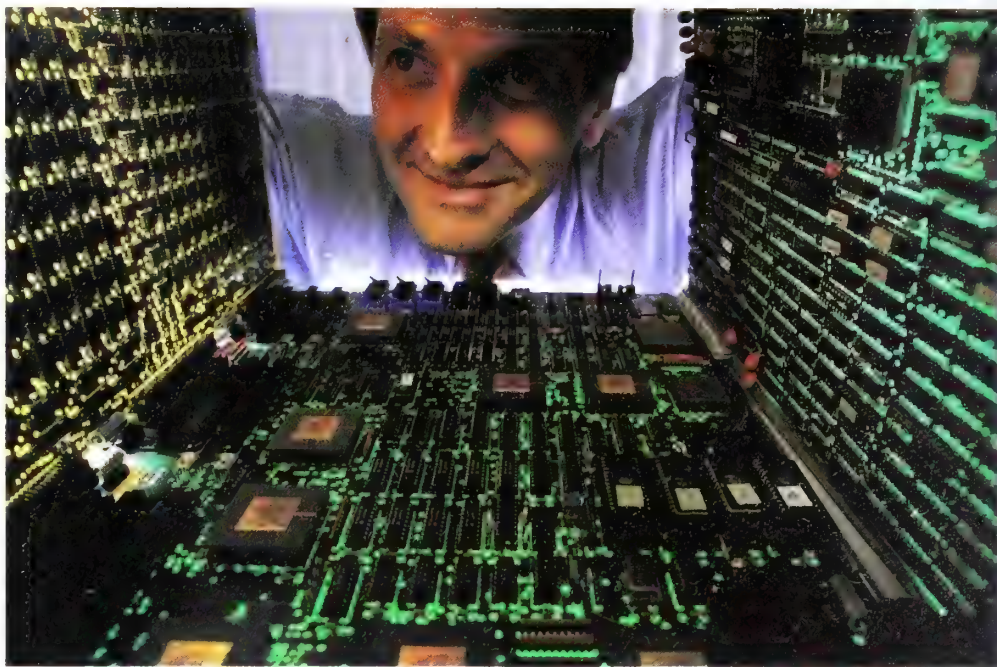
AS DESKTOPS
PROLIFERATE, A
'SERVER' IS WHAT
LINKS THEM UP

NETFRAME SYSTEMS

LOCATION
Sunnyvale, Calif.

FOUNDED
1987

BUSINESS
Building sophisticated
"servers" to link
computers into a
single network



Netframe's Torresi: Pioneering with servers could put him on top in the 1990s

SOMETIMES THE ENTREPRENEURIAL BUG bites where you least expect it. In January, Enzo Torresi left the nation's premier computer dealer, Businessland Inc. As vice-chairman of \$1.2 billion-a-year Businessland, the 44-year-old Torresi was a visible, articulate superstar in the personal computer industry. So it was surprising when he took a job as CEO of Netframe Systems Inc., an obscure, 33-employee company that didn't yet have a product to sell.

A second look, however, reveals one of the strongest lures in the business world: the chance to create a new market virtually from scratch. To do that, Netframe, based in Sunnyvale, Calif., is exploiting a sea change in computing: the shift to networks of desktop computers that do jobs that were once the bastion of minicomputers and mainframes. As that happens, the world needs a machine to let incompatible PCs talk to each other and to shunt data among PCs and mainframes. By coming out in late 1989 with a high-powered "server" with important advantages over existing devices, "we have an opportunity to create a new wave in computing," Torresi says.

His server, a three-foot-high box, could put Torresi at the head of a hot class of computer networking systems in the 1990s. Forrester Research Inc. estimates the market will amount to \$4.1 billion in 1993. Potential customers include small businesses and others who can't afford to buy a \$300,000 mini or an \$800,000 mainframe. For \$20,000 to \$160,000, such businesses could store information on a Netframe and let up to 600 people tap into the data base.

Netframe has plenty of competition. IBM, Compaq, and 3Com—which already sell general-purpose PCs used as the linchpin of computer networks—will be even more formidable when they come out with a new generation of com-

puters based on Intel Corp.'s super-fast 80486 chip. At the same time, Digital Equipment Corp. and Hewlett-Packard Co. are repositioning some of their minis to act as servers.

But Torresi has a couple of aces up his sleeve. One is technology. Netframe would help clear up what might be called networking gridlock. It's as if today's powerful computers contained high-speed cars that still had to drive on single-lane roads. While computers and conventional networking devices manipulate data rapidly, they have only one pathway for moving blocks of information around. The Netframe server has two additional lanes that can handle the overflow of data. And while most other servers are tied to one operating system, the Netframe will run the Macintosh, IBM, and Unix operating systems within a single box.

Torresi's other ace is connections. Netframe's chairman and principal founder, Carlton G. Amdahl, is an experienced mainframe designer whose father founded Amdahl Corp. After nurturing the Netframe technology since 1987, Amdahl turned to Torresi for his marketing and deal-making skills. Businessland, where Torresi remains a director, will provide the most extensive distribution network in the server business. And Torresi is already talking with data-base leaders Sybase, Informix, and Oracle about developing software for Netframes.

With such credentials, two-year-old Netframe has already attracted \$17 million in funding, led by venture capitalists Kleiner Perkins Caufield & Byers. But the biggest coup was winning investments from Apple Computer, Xerox, and Olivetti, whom Netframe could someday tap for technological or marketing help. Even in Silicon Valley, where multimillion-dollar companies sprout overnight, Netframe's pedigree suggests it will be one precocious kid.

By Maria Shao in Sunnyvale, Calif.

SHAD M. MECUM WILL NEVER FORGET HIS first stab at entrepreneurship. In 1985, he led an \$11.5 million leveraged buyout of a plant-cleaning division of Browning-Ferris Industries. Two years later, the Houston-based operation failed. Mecum paid too much, expanded too fast, and lost a lot of customers when the managers of a profitable branch operation went off to start their own business. Mecum earned a quick invitation from his venture partners to resign—and watched helplessly as his MainTech International Inc. was sold. “It was a shock,” he recalls. “But MainTech was a tremendous learning experience.”

Now the 47-year-old chemical engineer is trying again. In February, he raised nearly \$2 million in venture capital and bank loans and spent \$500,000 to acquire Row Industrial Services Inc., a Charlotte (N. C.) industrial-cleaning and maintenance company with \$1.5 million in assets. Mecum intends to buy two additional southeastern companies to fold into Environmental Field Services Inc., a holding company he has formed to get into the burgeoning waste-cleanup business. “There aren’t many people who have been successful that haven’t failed first,” insists Mecum.

Although many investors wouldn’t be so forgiving, Mecum’s backers view his previous experience as more of an asset than a liability. Before, he was a manager at large companies

such as Allied-Signal Inc. and Dow Chemical Co. But, says Daniel J. Shea, a partner at Kitty Hawk Capital, in Charlotte, N. C.: “I don’t know whether I’d have backed him if he was coming directly out of big companies. Now he has the scar on his body, and he’ll be a lot better off this time around.”

Mecum hopes to build Environmental Field Services into a \$20 million business in five years. Row Industrial already does a bang-up business in North Carolina, cleaning huge coal-fired boilers for Duke Power, textile plants for Springs Industries, and chemical-processing equipment for PPG Industries. Now, Mecum wants to buy two more companies in nearby markets. He hopes the real growth will come from expanding into environmental-cleanup services such as separating sludges into more easily disposable liquids and solids. Figuring that tougher laws will make environmental cleanup as routine as plant maintenance, Mecum thinks he can sell the new services to existing customers. “Our advantage is that the plants know we aren’t going to come in with a seat-of-the-pants program,” he says.

But while the \$2 billion market for environmental cleanup—or remediation, in industry jargon—is growing at 20% a year, sluggish implementation of federal regulations is holding it back somewhat. Thus, competition is fierce. “Everybody and his brother wants to get into site remediation,” says Kay Hahn, research director of regional broker

Chicago Corp. “But the money will be made if you have something technical, proprietary, or if you have a niche.”

Time will tell whether Mecum’s regional strength will pay off. But if he meets all of his performance goals, he plans to cash in his 55% stake by selling out or taking the company public. If he doesn’t perform as planned, his employment contract allows his holdings to be cut to 40%. Indeed, he could wind up on the street again. Mecum knows that venture capitalists “want their pound of flesh.” But he has chosen them carefully and warned them of early-stage losses. And after the lessons he learned from the MainTech debacle, Mecum will be treading very carefully himself.

By Scott Ticer in Charlotte, N. C.

ONCE BURNED, TWICE THE CEO?

TO SOME BACKERS, HIS FAILURE MADE SHADE MECUM A BETTER BET



rubbing a pond: As cleanup laws get tougher, Mecum hopes to build EFS into a \$20 million business in five years

ENVIRONMENTAL FIELD SERVICES

LOCATION
Charlotte, N. C.

FOUNDED
1989

BUSINESS
Handling tough cleanup jobs for industry

AGENDA FOR

AFTER THREE DECADES OF EBBING QUALITY in education, four decades of neglecting the factory, five decades of stroking consumption at the expense of savings, and seven decades of a parochial business outlook, America is now paying the piper. It no longer produces enough wealth to sustain its standard of living, depending instead on the thrift of the Japanese and other nations to pay for its extravagances. And it covers its debts by pawning the labors of future generations and selling off its hard-won assets.

The malaise is now so deeply rooted in American customs, habits, and legislation that righting things could take the rest of this century—even with a concerted, coordinated effort. Without forceful leadership at the top levels of Washington, there is a risk it may not get done in time to preserve U. S. control of the U. S. economy.

“The technological colonization of the U. S.” is

**CAN ‘INDUSTRY-LED POLICY’
BREAK DOWN THE
OBSTACLES TO INNOVATION?**



CHANGE

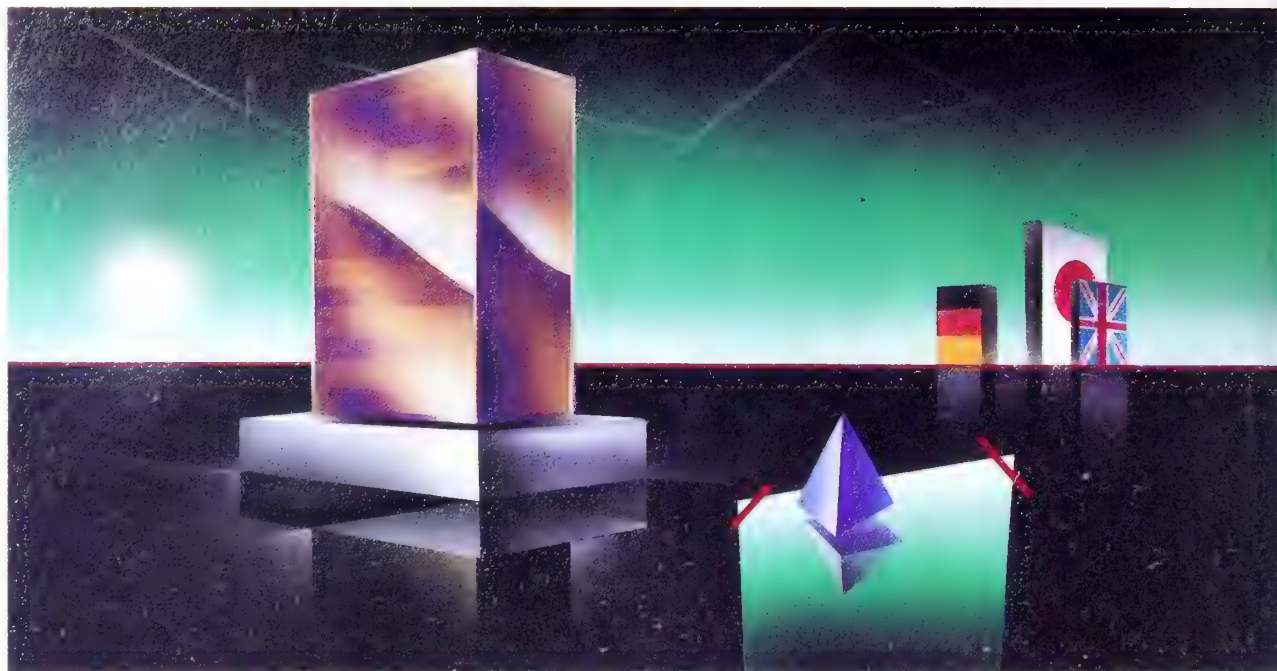


already under way, says the president of a major California company. (He asks not to be identified because his company relies on imported Japanese parts.) More and more, he says, U.S. companies are being reduced to providing services—marketing, distribution, and field support—to foreign manufacturers that rake off the bulk of the profits. Japanese holdings in the U.S. are now growing four times as fast as the U.S. economy, and Japan's rate of direct investment is accelerating.

There's no easy way out. Simplistic solutions such as walling off the country behind high trade barriers would only aggravate matters. "There's a whole litany" of things that need changing, says Stephen S. Cohen, co-director of the Berkeley Roundtable on the International Economy. "We need changes in investment policies, education, foreign trade, political attitudes, and labor relations."

A big order, indeed. Tackling them one by one would take forever—and simply perpetuate the patchwork approach that got the country into this predicament in the first place. So it's becoming clear to more and more industry leaders and government officials that a coordinated effort to salvage U.S. industry is essential. Call it industrial policy if you must, but that tends to ►





conjure up visions of politicians deciding the fate of industries by choosing which ones will or won't get government subsidies.

That's not what advocates have in mind, though. Commerce Secretary Robert A. Mosbacher, U.S. Trade Representative Carla A. Hills, and others are pushing a concept they call "industry-led policy." They envision a new partnership among industry, government, and academia that would break down the barriers to innovation and share the costs of developing the new technologies that are essential to industrial competitiveness.

Not even the Japanese subscribe to a "pick the winning industry" approach, though many believe that's just what the Ministry of International Trade & Industry does. It doesn't—not any more, at least. Now that Japan is running neck-and-neck with the U.S., or even out in front in some technologies, MITI no longer has the U.S. as a lighthouse for guidance. So, these days, it serves more as a clearinghouse for ideas. MITI's primary tool for spurring innovation is a list of technologies, not industries, that qualify for special tax breaks—another idea Japan borrowed from the U.S. and refined. Published every other year, the list currently cites some 150 technologies, from steel processing to genetic engineering to supercomputers. But MITI doesn't dream up the list—industry does. MITI just solicits and compiles the ideas.

A good starting point for the U.S. would be to make the tax credit for research and development permanent. Even at deep-pocket companies such as IBM, the R&D credit is a major factor in investment decisions. "I can tell you that for sure," says Erich Bloch, who was an IBM vice-president before taking over the National Science Foundation. The credit allows a company to reduce its tax bill by 20% of any increase in R&D spending.

Next, the Administration should devise some

WALLING OFF THE COUNTRY BEHIND TRADE BARRIERS WOULD ONLY MAKE MATTERS WORSE

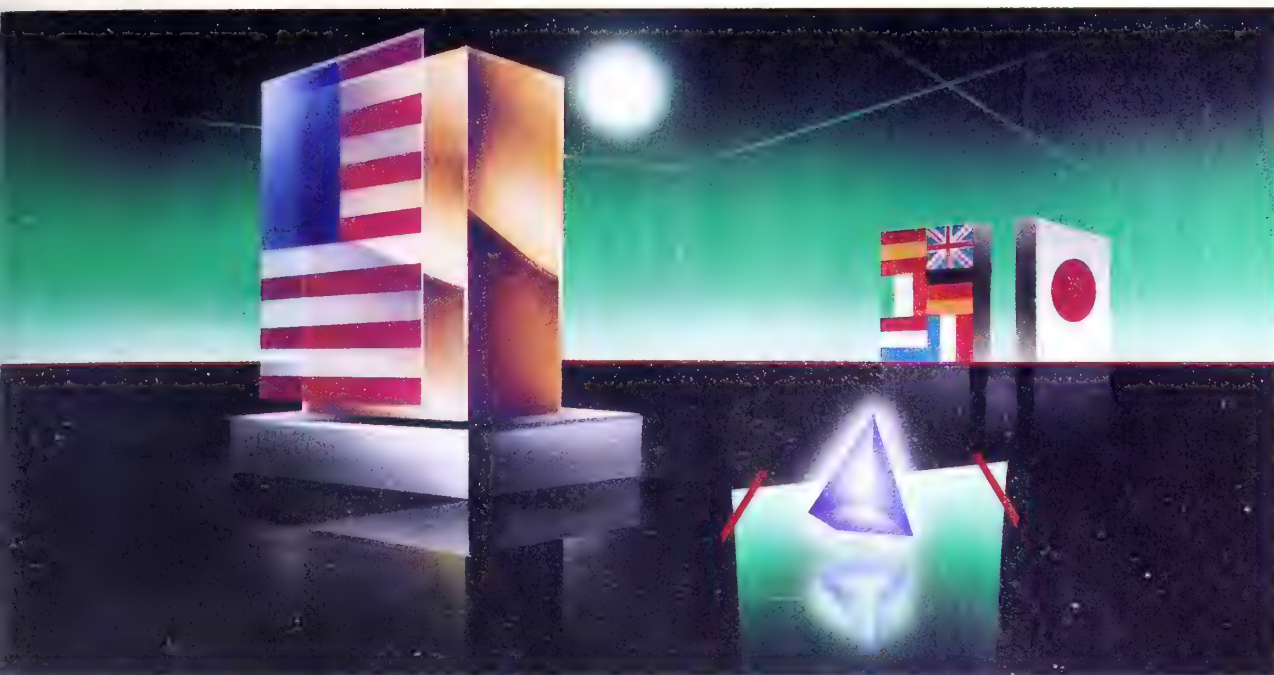
method of enlisting industry's help in compiling a list of key-to-the-future technologies. Tax credits over and above the general R&D credit would be offered to spur progress in the emerging areas. Perhaps companies that take the extra credit would pay a small royalty to Uncle Sam on future sales of applications of that particular technology. Over time, the program might even become self-financing. In

effect, Washington would serve as a research venture capitalist, funding work on technologies that are 5 to 10 years from marketability—too long for most private-sector venture capitalists.

It works in Japan. MITI reports that tax costs attributable to its tax-credit list are modest: about \$680 million in the fiscal year that ended March, 1989. MITI has never tried to estimate the benefits that have accrued from the program. "One idea is that if some business has extra cash and is about to invest in a Picasso or a condominium in Honolulu, this tax credit may entice them to spend the money on a new clean room for making microchips instead," says Midori Tani, MITI's assistant director for technology promotion.

It's also critically important to dissipate the financial community's fixation with short-term returns. For starters, Congress should create a new tax category for truly long-term capital gains: After being held for six or seven years, the bite should be snipped to some token amount, even less than the 15% rate on three-year investments proposed by President Bush. Gains from personal savings held for that length of time would also earn a much lower rate. "If we're ever going to do anything about capital formation and investment," says Robert M. Solow, a Nobel laureate economist at the Massachusetts Institute of Technology, "incentives for the long term are the way to go."

That could have enough impact on investment strategies to persuade financial analysts



begin recalculating the way they evaluate companies. In turn, that would encourage CEOs to stress longer-term planning to curry Wall Street's favor. It would also help offset America's high cost of capital—now two to three times Europe's and Japan's—while Washington struggles to reduce the federal deficit, a major contributor to high interest rates.

Clearly, tax revenues would take a hit. But it might be temporary. "I'd be willing to bet that you'd stimulate enough new domestic manufacturing and jobs that taxes from those sources] would make up the difference—maybe more than make up the difference," says Romesh T. Wadhvani, chairman of Pittsburgh's Cimflex knowledge Corp.

Some economists won't be pleased, though. "Basically, you'd freeze a lot of money for a long time," notes Christopher N. Caton, director of long-term studies at DRI/McGraw-Hill. "You'd make the flow of capital more sticky" and introduce inefficiencies that might make matters worse. Others, however, believe that would be an advantage. "This business of moving financial instruments from one mirror to another is not effective," says Michael L. Rortouzos, chairman of the MIT Commission on Industrial Productivity and director of its Computer Science Laboratory. "It just doesn't enhance the country's wealth."

While the antitrust laws have been modified to permit collaborative research, they should be further softened to permit joint production as well—but without the government footing the bill. Some lawmakers still fret about cartel monopolies, but that only betrays a lack of understanding of today's global marketplace. U.S. markets are too attractive for just about any foreign company or group to control prices. That would only invite foreign competitors to swoop in with lower-cost goods. Today, even if General Motors owned Ford Motor and Chrysler,

there's no way that GM could dictate prices.

Other measures that ought to be explored as part of a comprehensive industrial policy:

- Tax breaks for debt incurred to increase productivity, especially in manufacturing.
- Restructuring unemployment taxes to boost penalties paid by companies that frequently lay off workers and provide tax credits to those that retrain displaced workers.

■ Curbing state aid to foreign companies that want to set up U.S. plants. "Job creation through foreign ownership is unsustainable," says Arden L. Bement Jr., TRW Inc.'s vice-president for technical resources. "It barter away our long-term future" because design and other high-value-added functions remain close to the home office.

Finally, it may be possible to throw some disincentives in front of managers who cling to short-term thinking. U.S. managers are usually rewarded on the basis of their company's near-term profitability, so they are understandably prone to sacrifice long-term considerations if these conflict with short-range profits.

One way to persuade management to bite that bullet, says Roy H. Pollack, former executive vice-president of electronics technology at RCA Corp., would be to offer tax benefits to companies that defer at least 25% of executive pay for five or more years—until the results of long-range plans can be assessed. "Obviously, this would be very painful at first," says Pollack. "But there'd be enough pain to go around for everybody."

Sums up TRW's Bement: "Most problems having to do with innovation are outside innovation"—the high cost of capital, outdated policies and laws, and the lack of cohesive economic planning. It's a hodge-podge, yet "it's all connected." Getting it together will be America's major challenge in the years ahead.

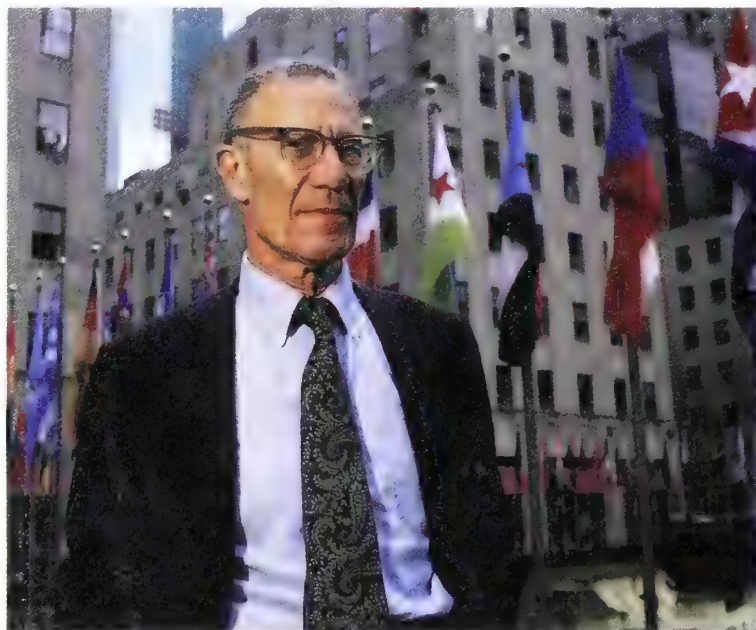
By Otis Port in New York, with bureau reports

TO ENSURE U.S. CONTROL OF THE U.S. ECONOMY, WASHINGTON MUST TAKE THE LEAD

SWAN SONG FOR LAISSEZ-FAIRE?

EVEN SOME DIEHARD FREE TRADERS ARE CHANGING THEIR TUNE

RECOMMENDATIONS

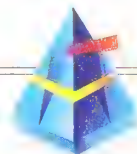


WHEN AS STAUNCH AN ADVOCATE of free trade as Robert M. Solow begins having second thoughts about the need for an industrial policy, something big is clearly in the wind. Solow, who won the 1987 Nobel prize in economics, began to see how radically things had changed after he was tapped to be vice-chairman of Massachusetts Institute of Technology's Commission on Industrial Productivity, which was charged with assessing U.S. industrial competitiveness. In May, after two years of study, the commission released *Made in America*, which catalogs a host of problems hobbling U.S. industry.

For Solow, the eye-opener came when he realized how the electronics age has yanked the rug out from under a basic tenet of economic theory. Because of information technology and global telecommunications, Solow now concludes that the theory known as comparative advantage "has forever changed." Other economists who have recently had a similar change of heart include Paul R. Krugman of MIT.

Comparative advantage, which had been the cornerstone of free trade, holds that each nation has a unique mix of natural resources, skills, and financial and industrial infrastruc-

**Nobelist Solow:
Comparative
advantage is
obsolete, thanks
to information
technology**



tures. This enables it to do certain things better than most other nations. Everyone derives maximum benefit when nations exchange results of their comparative advantages, unencumbered by tariffs and other trade barriers.

But these days, a new school of thought argues that some underlying assumptions about comparative advantage have been wiped out. First, there is Japan's "targeted industrial strategy," which severely warps free-market principles. Then there's the ease with which technological knowhow and capital can be shipped around the world—by simply bouncing signals off a satellite.

Today, a U.S. company can easily spend, say, \$1 million developing a new product only to watch helplessly as lower-cost imitations flood the market before the product has reached breakeven. The copycat producers can always undercut prices because they don't have the development costs to recover.

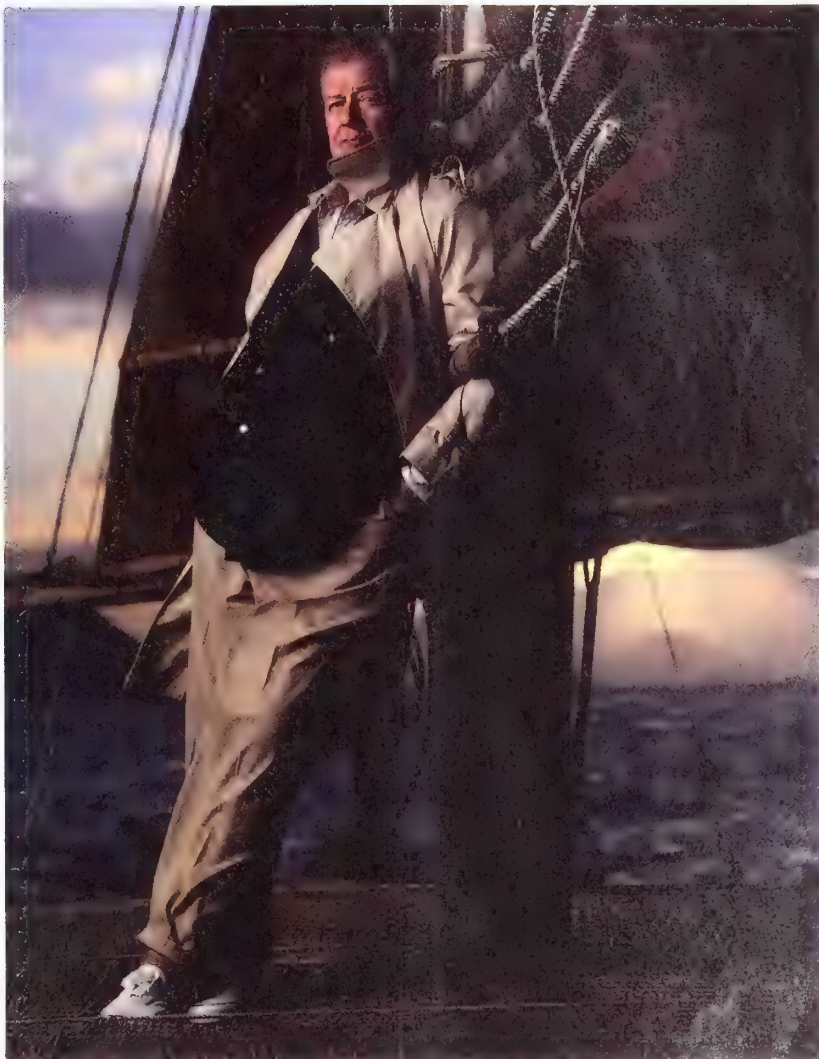
As a result, says Solow, no amount of macroeconomic tinkering—"turning the knobs on interest rates or currency exchange rates"—is going to restore U.S. industrial prowess. Most anyone involved in high tech could have told him that. In fact, some outspoken executives—notably Charles E. Sporek, president of National Semiconductor Corp.—have been trying to get that message across for a decade.

They tried again on May 25, when Rebut America, a lobbying group founded to promote an "industry-led policy," got the support of both the American Electronics Assn. (AEA) and the National Center for Manufacturing Excellence in asking President Bush to propel U.S. manufacturing back into the lead. The group wants close government and business collaboration, with industry calling the shots as to which technologies—but not which industries—should get federal assistance. "America faces a greater challenge than Sputnik, and a new industry-government partnership is needed to meet it," said Robert N. Noyce, vice-chairman of Intel Corp. and chairman of Sematech, a semiconductor research consortium.

Noyce's presence at that meeting and AEA's endorsement of it are clear telltales of just how far the mood has swung. Until the mid-1980s, the electronics sector—particularly the semiconductor industry—was open to the "cowboy entrepreneurs" famous for their rabid free-trade stance. Still, any formal proposal to implement an industrial policy will receive a "very cool reception" on Capitol Hill, says Senator Max S. Baucus (D-Mont.), a member of the Competitiveness Caucus and the Senate Finance Committee.

To a growing number of executives and economists, though, the question isn't whether, even when, the U.S. should enact an industrial policy, but how. "We already have an industrial policy," says Lester C. Thurow, dean of MIT's Sloan School of Management. The only problem, he adds, is that "it's uncoordinated and scattered all over the place, in the tax code and antitrust laws—and it isn't working."

By Otis Port in New York



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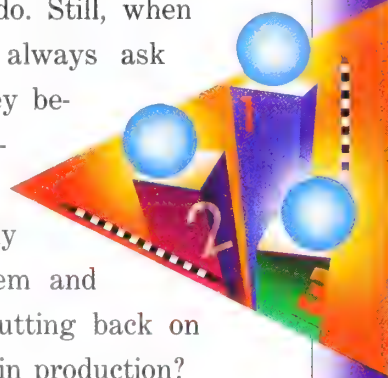


**NO DOUBT ABOUT IT:
THE MORE YOU RESEARCH,
THE BETTER YOU DO**

HOW R&D SPENDING PAYS OFF

YOU'RE A FAR-SIGHTED EXECUTIVE. You believe in R&D. While you know that the phenomenally successful breakthroughs—instant photography, xerography, the transistor—come only as frequently as Halley's Comet, you invest in research and development anyway. Even little advances help, you reason, and, well, it just seems a smart thing to do. Still, when the crunch comes, you always ask yourself: Is all that money being spent by those mavericks in the lab really worth it? Does it actually make sense to spare them and their toys when you're cutting back on marketing and laying off in production?

A statistical analysis that BUSINESS WEEK commissioned of historical data from its R&D Scoreboards suggests the answer is an unqualified "Yes." The study, done to improve the format for the Scoreboard, demonstrated beyond any doubt that the companies with the strongest performance in their markets are also the ►



R&D IN 1988

TOTAL INDUSTRY SPENDING: \$59.4 Billion **CHANGE FROM 1987: +11%**

R&D AS A PERCENT OF SALES: 3.4% **CHANGE FROM 1987: None**

R&D AS A PERCENT OF PRETAX PROFITS: 39.4% **CHANGE FROM 1987: -2.3 PERCENTAGE POINTS**

INDUSTRIES THAT INCREASED R&D THE MOST:

1. NONBANK FINANCIAL	27%
2. HEALTH CARE	19
3. OFFICE EQUIP. & COMPUTERS	18
4. ELECTRICAL & ELECTRONICS	13
5. AUTOMOTIVE	12

INDUSTRIES THAT INCREASED R&D THE LEAST:

1. METALS & MINING	-2%
2. HOUSING & CONSTRUCTION	0
3. AEROSPACE	1
4. CONGLOMERATES	2
5. FOOD	3

THE TOP COMPANIES IN 1988 R&D SPENDING

The parentheses after the company names show the industry group in which the company appears in the Scoreboard tables that start on page 180.

In Total Dollars (millions)	
1. GENERAL MOTORS (2a)	\$4,754
2. IBM (16c)	4,419
3. FORD MOTOR (2a)	2,930
4. AT&T (19)	2,572
5. DU PONT (3)	1,319
6. DIGITAL EQUIPMENT (16c)	1,307
7. GENERAL ELECTRIC (4)	1,155
8. EASTMAN KODAK (12)	1,147
9. HEWLETT-PACKARD (16c)	1,019
10. UNITED TECHNOLOGIES (1)	932

As a Percent of Sales	
1. AMGEN (10a)	89.5%
2. CENTOCOR (10a)	61.3
3. ALZA (10a)	39.7
4. GENENTECH (10a)	34.6
5. CONTINUUM (16g)	29.0
6. EVANS & SUTHERLAND (16g)	28.6
7. HOGAN SYSTEMS (16g)	27.2
8. BMC SOFTWARE (16g)	26.9
9. CYPRESS (7d)	24.2
10. CULLINET SOFTWARE (16g)	24.2

In Dollars Per Employee	
1. AMGEN (10a)	\$112,269
2. CENTOCOR (10a)	78,658
3. GENENTECH (10a)	64,037
4. CHIPS & TECHNOLOGIES (7d)	60,828
5. WEITEK (16f)	45,717
6. ALZA (10a)	45,578
7. BMC SOFTWARE (16g)	42,622
8. BOLAR (10a)	41,273
9. ALLIANT COMPUTER (16c)	36,638
10. ASHTON-TATE (16g)	36,208

DATA: STANDARD & POOR'S COMPUSTAT SERVICES INC.

ones that spend the most, pound for pound, on R&D. So, for the first time, the tables rank the companies within their industry subgroups by a key variable for indicating future corporate performance: R&D spending per employee.

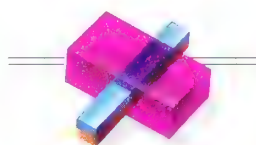
Although earlier studies have suggested a tie between R&D spending and performance, probably none was based on as broad a sample as is represented by the BUSINESS WEEK R&D Scoreboard. This year's tables, which begin on page 180, include 897 companies in 40 industry groups and subgroups. The grand total of R&D spending in 1988 by all the companies covered was almost \$59.4 billion, an 11% increase over the comparable 1987 number. Even adjusted for the inflation in nonresidential capital investments, the increase was more than 6%.

The statistical analysis that led to the new ranking system was done by mathematician and computer consultant Robert Reithner, based in Hoboken, N.J. Working with data provided by Standard & Poor's Compustat Services Inc., Reithner was asked to gauge what, if any, correlation he found between three measures of com-

pany performance (profit margins, return on assets, and sales per employee) and two measures of R&D spending (per dollar of sales and per employee). To approximate the real-world lag between R&D outlays and results, he was asked to compare company performance in 1987 with average R&D spending from 1983 through 1986.

THE RESULT FOR ONE PAIR OF THESE VARIABLES was eye-popping: "The rank correlation between R&D per employee and sales per employee is off the scale," states Reithner in his report. The statistical significance that he calculated for the correlation between the two sets of rankings was well beyond 99.9%. Although he found no significant correlation between R&D spending per employee and return on assets, the correlation with corporate profit margins was also undeniably statistically significant in excess of 99.5%.

With that, the decision to include rankings in the Scoreboard came easily. In addition to placing the companies in each subgroup by their 1988 R&D spending per employee, the tables ap-



THE LEADERS' LEADERS

rank them by average R&D spending per employee for the five-year period from 1984 through 1988. And along with the customary listings of R&D as a percent of profits and as a percent of sales, the tables now give each company's sales per employee.

AS WITH ANY SET OF STATISTICS, it's important to keep some limitations in mind. The first is that you can't compare R&D spending per employee of companies in different industries, or even different subgroups within a given industry. This can be especially misleading when you are comparing a company in a high-tech industry with one in a mature old-line business. The \$6,638 in R&D that Alliant Computer Systems Corp. spent per employee in 1988 actually tells you little when backed against the \$2,878 per employee spent by fabric maker Concord Fabrics Inc. It's only after you notice that Concord spends five times the average for its group, vs. less than ½ times for Alliant, that you can appreciate how aggressive Concord is about research. Relative to the environment in which it operates, Concord actually outspends Alliant.

That's why the tables on this page list some of the companies that spend significantly more on R&D per employee than the other companies in their respective subgroups. In theory, these numbers should be comparable across industry groups. Even these, however, must be read in perspective. DeKalb Genetics Corp., for example, leads all 897 companies in the Scoreboard by this measure. One

reason is that, although DeKalb is grouped with food companies, it also has a large bioengineering operation—where especially heavy research spending is typical. But because DeKalb is one of the leading suppliers of hybrid corn seed, it's ranked as a food company in the government's standard industrial classifications.

Another caveat to keep in mind when interpreting the data: Usually, a company's ranking of R&D spending per employee in 1988 correlates quite well with its ranking for the average spent per employee for 1984 through 1988—but not always. Triton Energy Corp., for example, leads the Oil, Gas & Coal group with \$945 spent per employee in 1988. In contrast, Exxon Corp.'s ratio of \$3,875 placed it eighth out of 14. But Chevron ranks No. 1 in spending over the past five years, while Triton ranks 14th. What's more, Chevron leads the group in five-year spending by a wider margin than Triton leads those in the one-year grouping. Is Triton on its way to becoming the group's new No. 1 star? Or was this year's ratio just a fluke? The most critical caution, however, is that

The following companies not only spent a lot on R&D per employee but also a lot more than their competitors. To arrive at this list of the companies most committed to research, BUSINESS WEEK first split off the three companies with the greatest R&D spending per employee in each of the 40 industry subgroups covered by the Scoreboard. We then calculated the percentage by which their spending per employee exceeded the composite figure for the group. We did this for 1988 spending and for spending from 1984 through 1988. These percentages determined the rankings. The parentheses after each company's name indicate the subgroup in which that company appears in the Scoreboard tables.

Based On Spending In 1988 . . .

1. DEKALB GENETICS (8)	1,152%
2. PIONEER HI-BRED (8)	1,088
3. LAM RESEARCH (13c)	776
4. AMGEN (10a)	729
5. CHIPS & TECHNOLOGIES (7d)	715
6. APPLIED MATERIALS (13c)	664
7. GRADCO SYSTEMS (16a)	560
8. FILENET (16a)	545
9. WEITEK (16f)	522
10. QUANTUM (16e)	495
11. CENTOCOR (10a)	481
12. SILICON VALLEY (13c)	469
13. FRANKLIN COMPUTER (16a)	431
14. SEI (15)	393
15. CONCORD FABRICS (13d)	385
16. GENENTECH (10a)	373
17. VARCO (9b)	367
18. SYMBOLICS (16f)	350
19. PLAYTEX (5c)	316
20. TORO (5a)	315
21. DIGITAL MICROWAVE (7b)	306
22. ARITECH (18)	302
23. DST SYSTEMS (15)	299
24. LTX (7c)	293
25. CALGON CARBON (18)	291

. . . And For The Last Five Years

1. DEKALB GENETICS (8)	626%
2. CHIPS & TECHNOLOGIES (7d)	586
3. PIONEER HI-BRED (8)	534
4. LAM RESEARCH (13c)	464
5. APPLIED MATERIALS (13c)	449
6. AMGEN (10a)	448
7. GALOOB (LEWIS) TOYS (12)	403
8. WEITEK (16f)	388
9. DIGITAL MICROWAVE (7b)	354
10. TORO (5a)	344
11. GRADCO SYSTEMS (16a)	333
12. CENTOCOR (10a)	327
13. EARTH TECHNOLOGY (18)	297
14. SILICON VALLEY (13c)	292
15. FILENET (16a)	287
16. VARCO (9b)	286
17. ALTERA (7d)	275
18. VIPONT (5b)	259
19. ACUSON (10b)	232
20. PHEONIX TECHNOLOGIES (16h)	228
21. FRANKLIN COMPUTER (16a)	224
22. 3M (13a)	220
23. VARITRONIC (13a)	217
24. GENENTECH (10a)	209
25. POLAROID (12)	207

DATA: STANDARD & POOR'S COMPUSTAT SERVICES INC



there simply is no way to establish statistically that it's R&D spending that results in greater sales per employee—and not the reverse. Although BUSINESS WEEK built a lag into the comparisons when it had the historical data analyzed, this ad hoc refinement to the exercise is, in itself, hardly conclusive. "Statistics can never establish causality," notes Reithner. "You have to bring your own theory to the figures to do that." He offers this analogy: If you charted the use of air conditioning vs. temperature, you would no doubt see that the hotter it gets, the more that people turn on their cooling units. But that correlation, no matter how close, doesn't tell you which caused which. Common sense does.

And what does common sense suggest about R&D spending per employee vs. sales per employee or profit margins? Which came first? Reithner doesn't hesitate: "From my observations of high-tech companies, it seems pretty clear to me that R&D drives sales and profits—not the other way around."

By Anthony J. Parisi in New York

R&D SCOREBOARD

GLOSSARY

CRITERIA: Data are for the most recent fiscal year reported as of May 31. If the company is not on a calendar-year basis, the number of the month in which its fiscal year ends appears in parentheses following the company name. Companies included in the survey are limited to those reporting sales of \$35 million or more and R&D expenses of at least \$1 million or at least 1% of sales.

R&D EXPENSES: Dollars spent on company-sponsored research and development for the most recent fiscal year, as reported to the Securities & Exchange Commission on Form 10-K. Excludes R&D under contract to others, such as U.S. government agencies.

R&D DOLLARS PER EMPLOYEE: R&D expenditures divided by the reported number of company employees.

PROFITS: Pretax income.

DATA: STANDARD & POOR'S COMPUSTAT SERVICES INC. NA=not available; NM=not meaningful; NEG=negative earnings; NR=not ranked

COMPANY

R&D EXPENSES

SALES

PROFITS

ALL-INDUSTRY COMPOSITE

59377.2 11

5041.8

227605.3

1737562.0 11

147.6

3.4

150761.7 18 39

AEROSPACE

1

INDUSTRY COMPOSITE

3918.6 1

4345.7

3055.9

95294.0 6

105.7

4.1

4487.8 7 87

Boeing
Curtiss-Wright
Fairchild Industries
GenCorp (11)

751.0 -9
2.5 1
11.8 16
33.0 -6

4870.3 6
1346.7 15
2358.0 12
2115.4 13

5206.8 3
1601.9 16
1753.2 15
2470.5 12

16962.0 9
171.0 4
538.7 19
1891.0 17

110.0 4.4
90.5 1.5
108.0 2.2
121.2 1.7

820.0 25 91
31.8 -22 B
25.7 12 45
73.0 87 45

General Dynamics
Grumman
Kaman
Lockheed

412.5 22
17.9 -61
7.8 14
536.0 -2

4012.6 9
558.7 20
1215.9 16
6175.1 2

2806.5 10
1805.4 14
766.3 2
5261.3 2

9551.0 1
3591.3 8
767.2 9
10590.0 -6

92.9 4.3
112.2 0.5
120.1 1.0
122.0 5.1

455.0 -24 90
130.5 218 13
42.2 -3 18
580.0 -19 92

Martin Marietta
McDonnell Douglas
Moog (9)
Northrop

194.9 -11
610.0 -6
18.0 10
206.0 24

2887.3 10
5023.8 4
5052.2 3
4618.8 7

2678.8 11
4822.3 4
4173.2 8
5605.9 1

5727.5 11
15069.0 10
296.9 -3
5797.1 -4

84.9 3.4
124.1 4.0
83.4 6.1
130.0 3.6

475.2 25 41
507.0 11 120
-22.0 NM NE
-53.9 NM NE

Pacific Scientific
Parker Hannifin (6)
Sequa
Sierracin

7.6 26
29.6 2
17.3 75
2.0 10

4054.3 8
889.5 19
1072.5 17
2105.3 14

4542.0 7
970.8 18
1260.4 17
2066.5 13

180.9 15
2251.7 16
1712.6 50
81.6 14

96.4 4.2
67.7 1.3
106.3 1.0
85.9 2.5

-6.2 NM NE
163.8 6 18
119.9 55 1
3.0 -1 65

Sundstrand
Talley Industries
United Technologies
Woodward Governor (9)

115.2 28
4.2 -2
932.4 6
9.0 10

8344.6 1
1047.6 18
4991.4 5
2835.5 11

4675.2 6
905.4 19
4781.3 5
2965.1 9

1477.3 8
359.9 36
18000.1 5
277.7 13

107.1 7.8
90.1 1.2
96.4 5.2
87.3 3.2

-80.2 NM NE
18.6 82 25
1164.9 7 80
39.5 23 22

AUTOMOTIVE

2

INDUSTRY COMPOSITE

9528.2 12

5697.4

18480.2

293543.0 12

175.5

3.2

18415.4 14 51

CARS & TRUCKS

GROUP COMPOSITE

8683.6 11

6673.6

4033.3

255125.2 12

196.1

3.4

17061.4 16 56

Chrysler
De Tomaso Industries
Ford Motor
General Motors

880.8 10
5.4 NA
2930.0 17
4753.8 9

6074.5 3
1247.4 7
8162.9 1
6206.0 2

5515.3 2
950.9 7
6364.8 1
4979.2 3

35472.7 21
207.4 NA
92445.6 16
120387.0 7

244.6 2.5
47.8 2.6
257.6 3.2
157.2 3.9

1692.2 -22 50
-46.8 NA NI
8342.5 6 30
6734.9 53 70

Mack Trucks
Navistar International (10)
Oshkosh Truck (9)

26.2 0
80.0 1
7.3 12

2764.6 6
5089.4 4
4319.4 5

1877.0 6
4450.4 4
4110.9 5

2179.5 13
4080.2 16
352.9 -13

229.6 1.2
259.6 2.0
208.3 2.1

44.7 144 51
269.0 77 28
24.9 -48 20



COMPANY

R&D EXPENSES

SALES

PROFITS

1988 \$ MIL.	CHANGE FROM 1987 %	PER EMPLOYEE				1988 \$ MIL.	CHANGE FROM 1987 %	PER EMPLOYEE \$THOUS	R&D AS % OF SALES	1988 \$ MIL.	CHANGE FROM 1987 %	R&D AS % OF PROFITS
		1988 \$	1988 RANK	AVG. 1984-88 \$	AVG. 1984-88 RANK							

PARTS & EQUIPMENT

GROUP COMPOSITE	487.5	12	2154.3		1671.3		23610.8	15	104.3	2.1	570.9	21	85.4
Champion Parts	1.8	9	671.0	20	608.1	19	129.5	10	49.4	1.4	2.6	55	66.6
Champion Spark Plug	9.6	-2	1156.6	14	1178.4	14	738.0	3	88.9	1.3	32.7	1	29.4
Cummins Engine	95.7	19	3666.7	2	3530.7	2	3310.1	20	126.8	2.9	-47.0	NM	NEG
Dana	57.0	4	1443.0	13	1284.4	13	5190.2	17	131.4	1.1	278.6	35	20.5
Danaher	12.0	41	1818.2	10	919.1	15	715.7	24	108.4	1.7	73.0	79	16.4
Donaldson (7)	6.7	12	1909.1	9	2075.0	6	362.9	23	103.7	1.8	29.9	37	22.4
Eagle-Picher Industries (11)	20.5	5	2277.8	6	1921.3	8	770.1	14	85.6	2.7	-497.9	NM	NEG
Eaton	121.7	7	3208.4	3	3033.9	3	3468.5	12	91.4	3.5	367.3	12	33.1
Echlin (8)	8.9	1	586.3	21	587.8	20	1294.3	18	85.7	0.7	93.3	28	9.5
Equion (7)	1.3	9	1691.7	11	1921.4	7	88.8	19	115.0	1.5	6.7	14	19.6
Excel Industries	2.2	22	785.7	19	827.8	17	259.9	39	92.8	0.8	12.3	28	17.9
Filtertek	3.6	48	5423.1	1	3820.1	1	36.8	18	56.1	9.7	4.6	-18	76.8
Fruehauf	29.6	21	1934.6	8	1305.8	12	2069.5	NA	135.3	1.4	-83.1	NA	NEG
Modine Mfg. (3)	6.7	1	1566.5	12	1722.1	9	395.2	13	92.4	1.7	41.5	11	16.1
Raytech	3.5	-9	3156.8	4	2200.9	5	129.4	-2	116.5	2.7	-66.0	NM	NEG
Smith (A. O.)	9.1	-1	791.3	18	1497.5	11	1015.4	5	88.3	0.9	30.2	19	30.1
SPX	16.2	29	2023.7	7	1659.2	10	877.7	13	109.9	1.8	69.9	53	23.1
Standard Products (6)	6.3	52	1085.5	15	863.8	16	508.3	9	87.6	1.2	53.0	-11	11.9
Superior Industries International	2.0	34	814.2	17	523.9	21	200.2	18	83.4	1.0	20.5	36	9.5
Trinova	71.6	11	3079.9	5	2790.9	4	1918.6	14	82.5	3.7	139.4	9	51.4
Walbro	1.7	87	971.1	16	615.0	18	131.7	19	73.2	1.3	9.1	-18	19.2

TIRE & RUBBER

GROUP COMPOSITE	357.1	14	2464.5		2173.0		14807.1	9	102.2	2.4	783.1	-30	45.6
Bandag	9.3	27	4019.9	1	3101.2	1	490.6	16	212.2	1.9	112.6	5	8.3
Carlisle	14.0	8	3233.9	2	2098.0	3	567.4	5	131.3	2.5	28.6	-10	48.9
Cooper Tire & Rubber	11.2	9	1857.1	4	1639.6	4	748.0	12	124.0	1.5	64.9	22	17.3
Goodyear Tire & Rubber	304.8	14	2680.2	3	2359.6	2	10810.4	9	95.1	2.8	556.7	-37	54.8
Niroyal Goodrich Tire	17.8	10	962.2	5	907.4	5	2190.6	7	118.4	0.8	20.3	-38	87.7

CHEMICALS

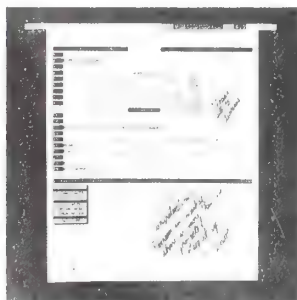
INDUSTRY COMPOSITE	4454.1	10	7442.3		5072.4		122315.7	15	204.4	3.6	16438.8	29	27.1
Air Products & Chemicals (9)	71.8	27	5398.3	23	3394.5	30	2431.9	14	182.8	3.0	303.7	25	23.6
American Cyanamid	365.1	16	10284.2	7	8119.3	9	4592.0	10	129.3	8.0	473.9	20	77.0
Arco Chemical	39.0	34	13588.8	3	12166.3	1	2700.0	38	940.8	1.4	763.0	81	5.1
Aristech Chemical	9.1	10	5352.9	24	4803.9	22	1065.2	16	626.6	0.9	224.1	90	4.1
Baroid	8.1	-49	1760.9	45	1760.9	44	492.1	-4	107.0	1.6	18.1	NM	44.8
Betz Laboratories	15.9	10	5060.4	26	4955.5	21	447.6	16	142.3	3.6	78.8	12	20.2
Cabot (9)	28.5	-17	5532.1	22	5247.8	18	1676.6	18	325.2	1.7	112.5	58	25.3
Cambrex	3.1	6	6389.3	15	6367.8	14	120.3	12	246.5	2.6	11.6	9	26.8



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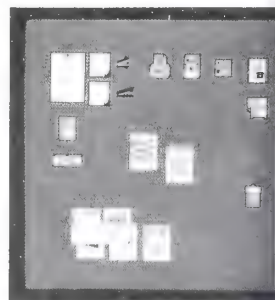
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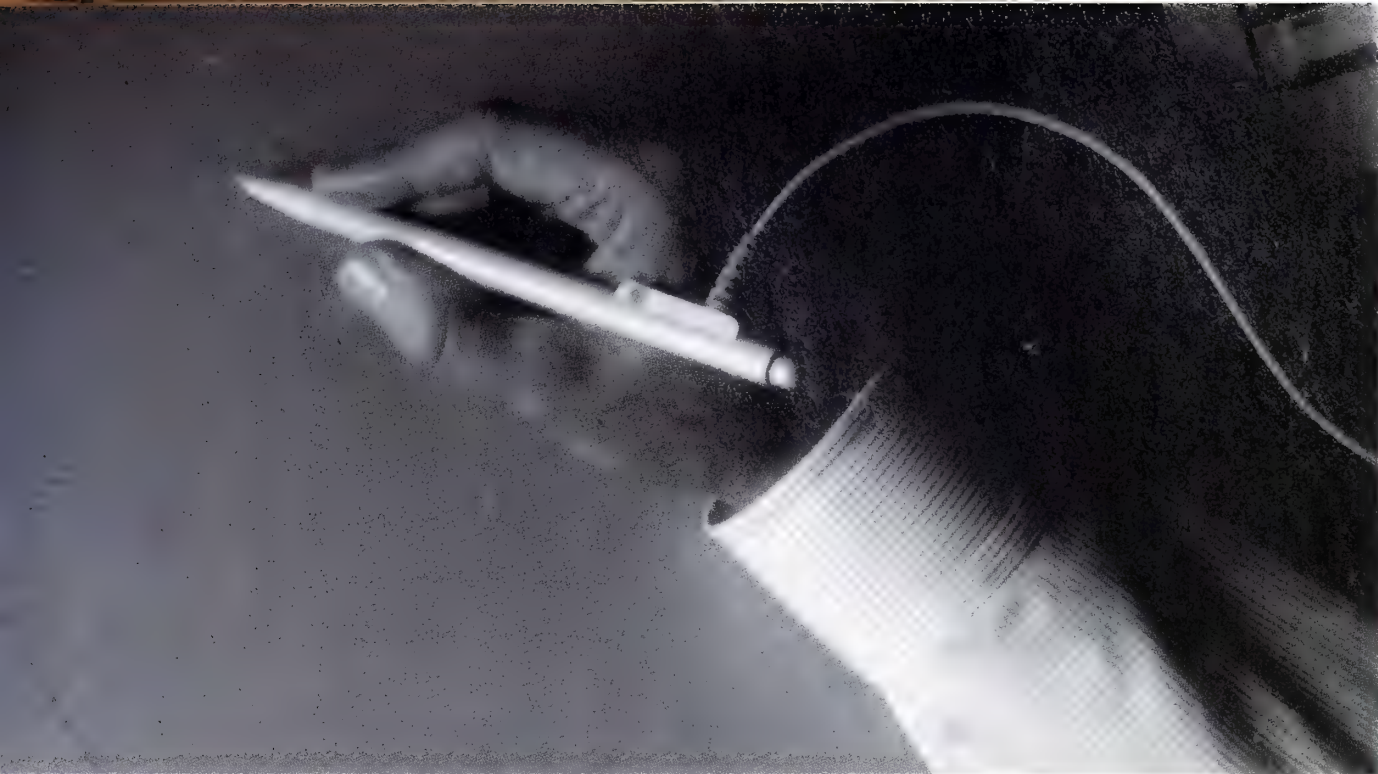
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Freestyle™ combines the speed of the personal computer with the simplicity of natural communications. It lets you communicate clearly and rapidly with your entire organization – on a personal level –

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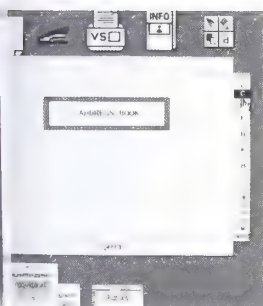
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With Freestyle you don't work differently, just more effectively. It enhances the skills you already have, it doesn't change them. And if you know how to use a pencil, paper, and phone, you already know how to use Freestyle.

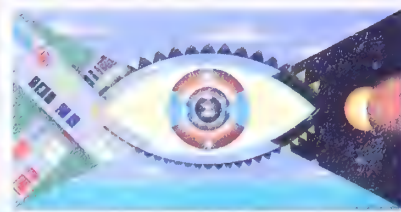
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MAKES IT WORK



...ut from your Freestyle "desktop,"
...can mail a Freestyle page via a
...uter network or FAX it, find out
...here it's been, select another
...ment to review, create a new one,
...or print it.



R&D SCOREBOARD

R&D EXPENSES

SALES

PROFITS

	1988 \$ MIL.	CHANGE FROM 1987 %	PER EMPLOYEE				1988 \$ MIL.	CHANGE FROM 1987 %	PER EMPLOYEE \$ THOUS.	R&D AS % OF SALES	1988 \$ MIL.	CHANGE FROM 1987 %	PR
			1988 \$	1988 RANK	AVG. 1984-88 \$	AVG. 1984-88 RANK							
Crompton & Knowles	6.1	29	3775.7	31	2935.1	35	289.8	45	180.6	2.1	26.9	32	22
Detrex	2.6	13	3975.7	30	3284.1	31	105.0	5	159.3	2.5	5.4	11	45
Dexter	32.7	14	6052.8	19	5082.3	19	827.3	9	153.2	4.0	71.9	-6	45
Dow Chemical	772.0	15	13909.9	1	11759.0	2	16682.0	25	300.6	4.6	3867.0	81	20
Du Pont	1319.0	8	9358.0	10	8211.0	8	32917.0	8	233.5	4.0	3824.0	4	34
Engelhard	39.5	27	4757.8	27	3867.6	26	2350.7	-5	283.2	1.7	87.2	-13	45
Ethyl	58.6	17	5634.6	20	4646.5	24	2718.0	19	261.3	2.2	353.2	14	16
Ferro	16.5	7	1964.4	44	1195.8	45	1009.0	16	120.5	1.6	90.3	45	16
Fiber Industries (3)	7.6	NA	8955.1	11	8955.1	6	361.8	NA	427.7	2.1	14.9	NA	50
First Mississippi (6)	4.2	-20	6244.1	16	7223.6	11	318.1	14	467.8	1.3	47.7	229	8
Fuller (H. B.) (11)	14.4	17	2771.3	39	2425.1	39	685.0	15	131.7	2.1	36.0	-16	40
GAF	15.1	24	3255.7	36	2655.7	38	961.4	15	207.3	1.6	135.9	-12	11
Goodrich (B. F.)	57.4	21	4665.9	28	3638.5	29	2416.7	19	196.4	2.4	255.4	71	22
Grace (W. R.)	119.0	11	2603.9	40	1874.4	42	5786.1	28	126.6	2.1	316.6	28	37
Great American Management (7)	5.3	342	500.0	46	337.7	46	1223.1	65	115.4	0.4	32.1	666	16
Great Lakes Chemical	28.3	36	11300.4	6	7681.7	10	557.8	17	223.1	5.1	143.5	69	19
Grow Group (6)	4.9	12	1979.8	43	2255.9	40	383.3	3	154.6	1.3	-11.4	NM	NM
Hercules	74.4	1	3272.8	35	3003.0	34	2802.1	4	123.3	2.7	163.3	-88	45
Himont	34.5	32	9593.3	8	8226.9	7	1710.8	47	475.2	2.0	572.7	55	8
ICN Biomedicals (11)	1.1	30	2088.2	42	1775.8	43	50.4	18	98.9	2.1	4.0	-33	20
Intl. Minerals & Chemical (6)	64.8	10	9391.3	9	4266.9	25	1470.6	-10	213.1	4.4	168.3	443	31
Lawter International	3.2	20	6776.3	14	6222.9	15	125.8	12	270.6	2.5	27.4	12	1
LeaRonald (2)	2.1	16	5262.5	25	5004.7	20	157.1	23	392.7	1.3	14.3	13	14
Loctite (6)	14.6	22	4438.5	29	3731.4	28	416.9	23	126.9	3.5	61.3	35	23
Lubrizol	65.3	6	13662.4	2	10651.6	4	1125.7	10	235.5	5.8	185.8	44	31
MacDermid (3)	5.7	13	7315.4	12	5839.1	16	120.0	24	153.8	4.8	10.1	20	53
Monsanto	575.0	3	12600.0	4	9916.5	5	8293.0	9	181.7	6.9	893.0	33	6
Morton Thiokol (6)	44.5	11	2181.4	41	1965.2	41	2316.4	17	113.6	1.9	247.8	7	13
Nalco Chemical	37.2	6	6920.5	13	6725.9	12	994.2	18	184.8	3.7	168.2	24	23
Olin	58.0	-6	3536.6	33	3757.6	27	2308.0	20	140.7	2.5	151.0	19	3
Pennwalt	30.7	19	6140.0	18	4699.9	23	1023.6	21	204.7	3.0	85.0	52	31
Petrolite (10)	12.3	2	5583.6	21	5419.2	17	301.4	8	137.0	4.1	18.8	-1	63
Products Research & Chemical (9)	5.3	5	6223.5	17	6401.6	13	100.3	5	118.0	5.3	14.0	0	35
Quantum Chemical	38.3	31	3481.8	34	2684.4	37	2921.9	29	265.6	1.3	617.7	126	2
Rexene (3)	3.9	-19	3154.4	38	3154.4	33	515.8	38	412.6	0.8	127.3	996	1
Rohm & Haas	156.0	10	12536.2	5	10992.2	3	2535.0	15	203.7	6.2	346.0	14	4
Union Carbide	159.0	0	3614.3	32	3189.1	32	8324.0	20	189.2	1.9	1165.0	188	14
Witco	24.4	8	3216.4	37	2755.1	36	1585.9	11	208.6	1.5	115.5	15	22

CONGLOMERATES

4

INDUSTRY COMPOSITE	3163.8	2	3197.7	2011.1		141649.9	5	143.2	2.2	9761.4	22	34	
Allied-Signal	415.0	4	3788.2	4	3112.9	4	11909.0	7	108.7	3.5	639.0	-16	65
Colt Industries	25.0	-1	1643.2	11	1548.4	10	1656.1	1	109.0	1.5	117.5	2	23
Figgie International	15.3	11	880.3	13	891.5	13	1200.2	14	69.0	1.3	98.1	11	16
General Electric	1155.0	-3	3875.8	2	3622.5	1	49414.0	4	165.8	2.3	4782.0	48	22
ITT	516.0	2	4410.3	1	3552.8	2	19355.0	6	165.4	2.7	1117.0	-13	42
LTV	22.7	-3	585.1	15	432.5	15	7324.7	-3	188.8	0.3	-865.4	NM	NM
Pall (7)	16.8	15	3054.9	6	2568.9	5	429.2	11	78.0	3.9	84.9	25	18
Pittway	17.5	9	2249.4	8	1744.3	9	771.1	19	98.9	2.3	62.6	14	10
Premark International	24.5	-4	1020.8	12	1081.4	12	2397.0	9	99.9	1.0	196.6	56	15
Rockwell International (9)	430.6	2	3839.2	3	3335.4	3	11946.3	-1	106.5	3.6	1053.0	-11	49
Standard Shares (2)	16.1	23	1959.5	9	1332.2	11	671.4	9	81.9	2.4	53.0	-20	13
Teledyne	79.3	-10	1810.5	10	1917.6	7	4522.7	8	103.3	1.8	577.9	0	7
Textron	168.0	45	2800.0	7	1745.9	8	7279.4	2	121.3	2.3	433.3	-4	18
TRW	225.0	7	3073.3	5	2262.2	6	6982.0	2	95.4	3.2	420.0	1	17
USX	37.0	3	629.5	14	696.2	14	15792.0	13	268.7	0.2	992.0	276	7

CONSUMER PRODUCTS

5

INDUSTRY COMPOSITE	1595.3	9	1933.8	16018.4	101314.1	14	122.8	1.6	10278.9	21		
APPLIANCES & HOME FURNISHINGS												
GROUP COMPOSITE	198.8	4	1569.7	1394.1	12286.7	9	96.8	1.6	653.1	-5		
Allegheny International (9)	10.9	24	895.2	6	1008.9	6	967.8	NA	79.3	1.1	-17.7	NA
Armstrong World Industries	60.0	13	2312.9	4	2220.7	3	2680.3	13	103.3	2.2	264.7	2
Dynamics Corp. of America	1.0	-8	597.8	9	682.0	8	127.3	5	75.2	0.8	8.9	86

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R&D EXPENSES

SALES

PROFITS

	CHANGE FROM 1987		PER EMPLOYEE				CHANGE FROM 1987		PER EMPLOYEE		R&D AS % OF SALES		CHANGE FROM 1987	
	1988 \$ MIL.	%	1988 \$	1988 RANK	AVG. 1984-88 \$	AVG. 1984-88 RANK	1988 \$ MIL.	%	\$ THOUS.		1988 \$ MIL.	%		
Fedders	1.3	32	707.2	8	1068.5	5	221.1	72	117.9	0.6	24.1	67		
Flexsteel Industries (6)	1.2	0	478.6	14	524.7	11	165.3	6	67.3	0.7	14.3	12		
Instrument Systems (9)	1.6	-43	320.0	15	470.2	14	381.1	7	76.2	0.4	12.0	-9		
Kimball International (6)	4.6	16	565.1	10	494.2	12	529.8	11	65.4	0.9	58.8	0		
La-Z-Boy Chair (4)	4.1	17	513.3	13	493.2	13	486.8	16	60.9	0.8	42.0	-7		
Mohasco	6.0	-3	936.3	5	616.1	9	409.3	-1	63.7	1.5	-36.6	NM		
Mor-Flo Industries	1.5	-7	885.5	7	836.5	7	218.0	7	126.8	0.7	-4.1	NM		
Regina (6)	2.4	58	NA	NR	NA	NR	181.1	41	NA	1.3	18.7	41		
Robeson Industries (2)	0.4	-43	3127.7	2	2127.2	4	42.3	-17	300.0	1.0	-5.8	NM		
SSMC	8.8	22	553.5	11	470.0	15	661.2	3	41.6	1.3	-7.8	NM		
Stanley Interiors	1.8	-20	514.1	12	530.9	10	184.6	0	53.7	1.0	3.3	-1		
Toro (7)	20.2	15	6511.8	1	6187.4	1	609.2	17	196.2	3.3	25.8	-6		
Whirlpool	72.9	-8	2503.6	3	2466.4	2	4421.4	5	151.9	1.6	252.4	-18		

B PERSONAL CARE

GROUP COMPOSITE	1001.5	10	4660.1		4266.5		38171.8	14	177.6	2.6	3459.4	51	2
Avon Products	28.9	-9	1017.6	17	1025.5	17	3063.0	18	107.9	0.9	219.1	-41	1
Block Drug (3)	10.9	25	3834.5	7	3200.7	7	356.9	16	125.7	3.1	43.3	16	2
Chattem (5)	0.8	6	2054.8	15	2236.4	13	63.3	3	173.4	1.2	3.4	-10	2
Chemed	3.0	0	536.0	18	600.8	18	500.6	28	90.1	0.6	37.1	-6	1
Church & Dwight	6.3	16	6269.0	6	6115.3	5	346.8	9	346.8	1.8	24.9	7	2
Clorox (6)	32.8	-2	6832.5	5	5493.2	6	1259.9	12	262.5	2.6	211.8	14	1
Colgate-Palmolive	73.0	2	2956.4	9	2259.2	12	4734.3	8	191.7	1.5	250.2	520	2
Del Laboratories	2.6	6	2589.0	13	2179.8	14	115.2	7	115.2	2.2	5.3	-2	4
Ecolab	14.4	4	1074.4	16	1116.4	16	1211.9	19	90.1	1.2	78.1	-13	1
Faberge (1)	2.4	81	237.4	19	237.4	19	607.1	11	59.5	0.4	13.2	-73	1
Gillette	81.9	8	2766.9	12	2315.8	11	3581.2	13	121.0	2.3	448.6	15	1
Helene Curtis Industries (2)	9.0	31	3316.3	8	2596.8	10	488.9	22	181.1	1.8	19.9	-3	4
International Flavors & Fragrances	49.7	11	11895.1	1	10155.7	2	839.5	13	201.0	5.9	209.3	19	2
Minnetonna	2.1	28	2402.0	14	1616.9	15	213.5	40	239.1	1.0	24.4	38	1
Noxell	6.4	8	2831.0	11	2976.8	8	521.6	7	231.9	1.2	81.0	6	1
Procter & Gamble (6)	652.0	13	8467.5	4	7046.8	4	19336.0	14	251.1	3.4	1630.0	164	4
Stepan	10.1	14	9822.0	3	8735.8	3	333.0	15	324.0	3.0	20.6	7	1
Tambrands	13.7	-9	2860.4	10	2622.2	9	563.3	9	117.4	2.4	134.0	6	1
Vipont Pharmaceutical (9)	1.5	6	10236.5	2	15309.2	1	35.6	51	240.4	4.3	5.2	67	1

C OTHER CONSUMER GOODS

GROUP COMPOSITE	395.0	10	816.7		1048.7		50855.6	15	105.1	0.8	6166.5	12
American Brands	17.9	11	398.7	7	266.7	8	7235.9	19	161.2	0.2	984.2	14
Barry (R. G.)	2.4	26	716.4	6	736.4	6	106.2	9	31.7	2.3	0.3	-94
Coors (Adolph)	22.7	5	2164.1	2	2138.9	2	1521.7	13	144.9	1.5	77.0	-11
Farley	2.8	17	96.9	9	115.9	9	1516.5	15	52.5	0.2	51.3	-55
Nike (5)	5.3	-4	1536.2	4	1648.1	3	1203.4	37	348.8	0.4	166.2	126
PepsiCo	93.0	12	395.7	8	397.0	7	13007.0	14	55.3	0.7	1137.6	19
Philip Morris	245.0	10	1580.6	3	1580.6	4	25860.0	14	166.8	0.9	3727.0	11
Playtex Family Products	5.1	4	3400.0	1	2384.2	1	328.4	8	218.9	1.6	23.2	-38
Suave Shoe (9)	0.8	1	750.0	5	894.0	5	76.5	7	69.5	1.1	-0.3	NM

6 CONTAINERS & PACKAGING

INDUSTRY COMPOSITE	62.5	3	783.5		1270.8		6375.3	12	93.3	1.0	185.1	-17
Ball	13.1	-6	1845.1	2	1884.1	2	1073.0	2	151.1	1.2	48.1	-53
Bemis	12.5	5	1593.8	3	1389.9	3	1069.1	15	136.1	1.2	68.7	21
Clarcor (11)	1.4	14	620.0	4	679.8	4	202.3	12	86.9	0.7	33.1	-2
Owens-Illinois	20.4	-2	438.7	5	546.6	5	3571.9	15	76.8	0.6	-14.4	NM
Sealright	3.7	23	2440.6	1	1999.5	1	173.6	10	114.5	2.1	20.7	-1
West	11.3	17	NA	NR	NA	NR	285.4	13	NA	4.0	28.8	19

7 ELECTRICAL & ELECTRONICS

INDUSTRY COMPOSITE	6107.5	13	4932.4	27655.3	116141.3	13	93.5	5.3	8787.3	18
ELECTRICAL PRODUCTS										
GROUP COMPOSITE	650.2	2	2269.5	2794.6	27871.0	12	97.2	2.3	2597.9	9
Acme Electric (6)	5.6	11	5619.0	2	4884.5	2	82.3	22	82.3	6.8
Ametek	17.3	8	3326.9	6	3050.7	7	520.5	21	100.1	3.3
Baldor Electric	7.2	20	2703.7	9	2325.2	9	243.5	22	91.4	3.0



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R&D SCOREBOARD

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SALES

PROFITS

	1988 \$ MIL.	CHANGE FROM 1987 %	PER EMPLOYEE				1988 \$ MIL.	CHANGE FROM 1987 %	PER EMPLOYEE \$ THOUS.	R&D AS % OF SALES	1988 \$ MIL.	CHANGE FROM 1987 %	PROFITS
			1988 \$	1988 RANK	AVG. 1984-88 \$	AVG. 1984-88 RANK							
Charter Power Systems (1)	2.4	19	1618.5	14	1618.5	16	130.2	-1	89.2	1.8	1.6	-73	146
Computer Products	6.5	-12	3355.3	5	4397.4	5	123.6	14	64.1	5.2	-10.6	NM	NM
Emerson Electric (9)	204.3	8	2885.6	8	2481.8	8	6651.5	8	93.9	3.1	859.8	6	23
Franklin Electric	1.9	6	897.5	21	811.3	21	163.6	13	77.3	1.2	16.9	19	11
Genlyte Group	4.7	-2	1178.2	20	1178.2	19	492.9	11	124.2	0.9	19.1	-26	24
International Power Machines	0.9	-21	3035.2	7	4701.8	4	49.3	123	173.7	1.7	1.2	NM	69
Joslyn	2.9	81	1274.7	19	873.7	20	206.0	32	90.6	1.4	20.8	NM	13
Kollmorgen	14.5	2	3705.9	4	3891.3	6	344.8	15	88.4	4.2	17.4	NM	82
Kuhlman	2.7	-15	2026.2	12	1898.6	13	172.2	1	128.8	1.6	-13.7	NM	NM
Lincoln Electric	12.8	14	NA	NR	NA	NR	570.2	29	NA	2.2	55.9	12	22
MagneTek (6)	8.7	56	658.1	22	565.2	22	909.7	49	68.7	1.0	35.4	229	24
Powell Industries (10)	0.9	-23	1386.4	18	2296.1	10	81.7	21	132.7	1.0	3.1	NM	28
Raychem (6)	84.1	22	7713.4	1	7303.9	1	1094.7	16	100.4	7.7	169.3	68	49
Reliance Electric	19.0	-14	1461.5	16	1466.1	17	1303.0	11	100.2	1.5	58.0	176	33
Robbins & Myers (8)	1.8	-1	1438.5	17	1265.7	18	97.6	6	78.0	1.8	3.4	NM	51
Square D	49.5	11	2390.6	11	2080.0	11	1656.8	12	80.0	3.0	186.1	0	26
Superior Electric	3.4	-27	4355.5	3	4773.4	3	58.7	12	75.0	5.8	-1.6	NM	NM
Thomas Industries	7.5	10	2515.1	10	1913.1	12	347.6	8	116.6	2.2	29.6	0	23
Westinghouse Electric	190.2	-12	1589.8	15	1887.3	15	12499.5	10	104.5	1.5	1065.5	2	17
Woodhead Industries (9)	1.6	3	1943.2	13	1895.4	14	71.2	2	87.9	2.2	6.2	7	23

ELECTRONICS

GROUP COMPOSITE	2011.5	19	4618.0	4061.6	41948.8	8	96.3	4.8	3342.1	14	60		
Adams-Russell (9)	6.3	0	3597.4	25	3535.2	24	138.0	6	79.3	4.5	0.4	-77	14
Andrew (9)	14.1	36	5274.0	14	5423.4	11	253.5	14	94.6	5.6	21.7	333	6
Aydin	8.5	-16	4238.0	20	4175.1	20	169.7	14	84.8	5.0	12.0	-5	7
Base Ten Systems (10)	1.8	-47	3779.8	24	6288.8	6	36.1	10	74.4	5.1	-0.6	NM	NM
C-Cor Electronics (6)	1.7	6	2946.9	31	4090.6	21	36.5	25	62.5	4.7	4.3	103	3
California Microwave (6)	2.7	-14	3450.8	28	3460.9	25	97.2	-1	122.7	2.8	4.9	NM	5
Checkpoint Systems	2.6	8	4220.3	21	3706.6	22	44.4	25	71.3	5.9	1.3	-46	20
Chyron (6)	4.4	6	9237.0	3	8948.8	2	46.0	9	95.7	9.7	0.5	-89	81
Cincinnati Microwave	4.5	39	9206.1	4	5632.6	9	64.4	-20	131.4	7.0	3.2	-85	14
CompuDyne	2.3	-45	3542.0	27	2364.5	33	41.7	-15	63.7	5.6	-13.5	NM	NM
Cubic (9)	5.9	12	1539.7	38	1221.6	40	364.9	2	96.0	1.6	16.7	27	3
DBA Systems (6)	0.7	-30	994.6	42	1006.1	41	61.9	17	83.3	1.2	4.4	-6	1
Diagnostic/Retrieval (3)	3.2	62	6470.3	10	5684.5	8	61.5	15	125.8	5.1	6.8	13	4
Digital Microwave (3)	2.9	55	18733.7	1	18430.0	1	39.3	93	255.3	7.3	11.1	139	2
Dynascan	2.0	25	4514.7	19	4358.1	18	213.8	12	482.7	0.9	12.1	0	1
ECC International (6)	0.8	115	1154.4	41	1321.8	37	44.2	16	60.4	1.9	7.0	16	1
EDO	5.0	43	3301.2	29	2470.2	32	137.9	8	90.3	3.7	6.1	-43	8
Electro Scientific Industries (5)	8.3	15	10619.2	2	7888.6	4	68.6	19	88.0	12.1	0.9	NM	87
General Instrument (2)	37.5	36	2437.0	33	1982.1	34	1155.5	47	75.0	3.2	107.9	264	3
GM Hughes Electronics	550.9	32	5679.4	12	4654.6	16	11001.0	7	113.4	5.0	1132.7	8	4
Harmon Industries	4.1	25	5035.3	17	3628.9	23	64.6	13	78.6	6.4	3.5	21	11
Harris (6)	116.9	-1	5172.6	15	4315.0	19	2062.6	-1	91.3	5.7	86.5	-29	13
Knogo (2)	1.5	18	2362.5	34	1938.9	35	46.7	1	71.8	3.3	1.6	-80	9
Litton Industries (7)	79.8	-12	1450.9	39	1753.7	36	4863.9	10	88.4	1.6	291.9	17	2
Loral (3)	64.1	48	4674.4	18	3063.9	28	1440.8	109	105.0	4.5	121.9	23	5
Lowrance Electronics (7)	1.4	90	3982.4	22	2703.2	29	42.2	-3	124.0	3.2	-4.9	NM	NM
Motorola	665.0	27	6519.6	9	5270.6	12	8250.0	23	80.9	8.1	612.0	46	10
Napco Security Systems (6)	2.5	34	5128.9	16	4786.3	15	35.2	28	73.3	7.0	6.4	6	3
Odetics (3)	4.0	27	8522.1	6	7233.1	5	49.7	25	104.7	8.1	1.5	721	26
Perceptronics (3)	1.0	30	3295.8	30	3427.2	27	57.0	49	183.1	1.8	1.7	NM	5
Raytheon	271.0	2	3556.9	26	3441.2	26	8192.1	7	107.5	3.3	705.5	3	3
Sensormatic Electronics (5)	2.7	16	2185.7	35	2687.3	31	122.9	29	100.1	2.2	-11.9	NM	NM
Singer	5.0	NA	1315.8	40	1315.5	38	301.9	-84	79.4	1.7	46.2	69	1
Sparton (6)	2.4	87	930.0	43	514.3	43	206.2	-8	79.3	1.2	16.8	-11	14
Stanford Telecommunications (3)	6.1	0	9004.5	5	8736.2	3	57.2	3	84.9	10.6	1.1	-78	53
TCI International (9)	1.8	273	3914.7	23	4415.1	17	62.3	31	132.8	2.9	6.8	-4	2
Tech-Sym	3.2	31	1824.2	36	910.2	42	120.4	9	68.7	2.7	10.3	-25	3
Texscan (4)	3.0	41	2755.5	32	2694.2	30	39.8	11	36.2	7.6	3.2	-43	9
United Industrial	7.0	34	1659.5	37	1254.8	39	315.0	6	75.0	2.2	25.2	9	2
Varian Associates (9)	80.2	-1	6798.5	8	6040.4	7	1170.6	19	99.2	6.9	43.4	36	18



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R&D SCOREBOARD

R&D EXPENSES

SALES

PROFITS

Vicon Industries (9)
Watkins-Johnson
Wells-Gardner Electronics

1988 \$ MIL.	CHANGE FROM 1987 %	PER EMPLOYEE			
		1988 \$	1988 RANK	AVG. 1984-88 \$	AVG. 1984-88 RANK
2.4	20	7589.3	7	5521.0	10
18.3	8	5812.7	11	5080.5	13
1.6	12	5586.0	13	4988.5	14

1988 \$ MIL.	CHANGE FROM 1987 %	PER EMPLOYEE \$ THOUS.	R&D AS % OF SALES	1988 \$ MIL.	CHANGE FROM 1987 %	R AS C PRO
44.0	13	138.0	5.5	1.1	NM	220
292.2	11	92.8	6.3	30.8	7	59
35.7	22	125.2	4.5	1.2	33	128

C INSTRUMENTS

GROUP COMPOSITE

1379.0 7 5693.9 6609.9

23192.0 12 95.8 5.9 413.0 -2 333

Analogue (7)
Applied Biosystems (6)
Autoclave Engineers (5)
Badger Meter

17.6	-1	13057.0	8	10605.2	9
15.7	29	16350.4	2	14844.7	2
1.7	15	2856.4	46	2416.5	46
3.1	6	3561.3	41	2766.3	44

120.4	-14	89.2	14.6	1.6	-92	110
134.1	52	139.8	11.7	31.4	82	49
65.3	50	110.2	2.6	6.4	647	26
71.2	7	82.4	4.3	3.4	9	91

Bio-Rad Laboratories
Bowmar Instrument (9)
Coherent (9)
Daniel Industries (9)

14.5	19	8508.2	20	7423.0	20
0.9	39	1460.6	51	886.0	54
19.7	10	11584.2	12	10404.4	10
3.0	-40	1966.7	48	2324.5	47

198.9	25	117.0	7.3	15.2	20	95
39.7	1	68.0	2.2	-0.9	NM	NE
188.1	18	110.8	10.5	3.2	-19	610
146.9	11	98.0	2.0	-5.4	NM	NE

Data I/O
Dionex (6)
Electro-Nucleonics (6)
Esterline (10)

8.3	-10	16307.2	3	14608.0	3
5.3	21	10507.9	15	9812.1	12
4.3	-4	6600.0	26	6621.6	22
16.1	33	5328.5	31	4356.5	37

65.1	-2	127.4	12.8	6.6	NM	126
69.6	24	137.1	7.7	19.2	17	27
68.7	5	104.9	6.3	1.0	NM	434
284.4	10	94.2	5.7	14.3	NM	112

Finnigan
Fischer & Porter
Fluke (John) Mfg. (9)
Foxboro

12.0	33	11475.2	13	8634.2	17
10.3	13	3813.8	40	3111.4	42
23.4	5	9762.5	17	8874.5	15
37.2	-26	5166.1	32	5822.3	27

130.7	19	124.7	9.2	12.7	58	95
208.0	4	77.0	5.0	-0.1	NM	NE
224.5	9	93.6	10.4	17.8	188	131
539.9	7	75.0	6.9	15.1	NM	246

Galileo Electro-Optics (9)
Gelman Sciences (7)
General Signal
GenRad

1.8	45	3489.6	43	2705.1	45
4.3	9	5062.5	33	4436.0	35
115.6	10	6056.0	27	4953.7	32
30.7	16	15343.3	4	14353.6	4

35.0	-4	66.4	5.3	-1.8	NM	NE
61.7	16	72.8	7.0	2.1	133	199
1760.2	10	92.2	6.6	52.8	-46	219
205.9	6	103.0	14.9	-6.1	NM	NE

Hach (4)
Hathaway (6)
Henley Group
Honeywell

3.0	13	4973.3	34	4053.1	38
6.0	-6	11796.9	11	8204.1	18
28.0	-20	4179.1	38	2968.7	43
323.4	12	4125.9	39	4047.2	39

47.6	14	79.4	6.3	5.4	40	55
46.0	1	89.9	13.1	-5.1	NM	NE
1036.0	9	154.6	2.7	-184.0	NM	NE
7148.3	7	91.2	4.5	-200.9	NM	NE

Hurco (10)
IFR Systems (6)
Imo Industries
Instron

2.3	26	4922.1	35	5265.5	30
3.3	38	5407.0	30	4512.6	34
9.4	30	1222.6	53	1588.9	51
8.1	14	7566.7	22	5955.0	25

68.0	48	147.2	3.3	5.0	319	45
37.9	13	63.0	8.6	8.9	8	36
687.2	87	89.2	1.4	46.3	57	20
111.5	16	104.8	7.2	4.3	-23	187

Johnson Controls (9)
K-Tron International
Keithley Instruments (9)
KLA Instruments (6)

54.0	15	1868.5	49	1470.8	53
2.9	63	5874.5	28	5797.1	28
7.1	27	12238.3	10	10868.6	7
11.5	43	13367.0	6	11934.0	5

3099.6	17	107.3	1.7	186.5	14	29
55.0	24	109.6	5.4	5.7	-5	51
72.3	25	124.8	9.8	8.2	58	86
112.9	28	131.1	10.2	13.9	9	82

LTX (7)
Mark IV Industries (2)
Matrix (7)
Measurix (11)

31.6	36	22375.6	1	19372.2	1
9.2	46	1811.0	50	1811.0	49
14.2	5	12689.9	9	8670.9	16
19.2	15	7322.5	23	6292.3	24

174.8	45	123.9	18.1	10.5	NM	300
403.0	38	79.0	2.3	27.8	49	33
108.0	1	96.5	13.1	-11.5	NM	NE
265.2	17	101.2	7.2	48.7	30	39

Mechanical Technology (9)
Millipore
Milton Roy
Moore Products

1.3	23	1345.8	52	1787.4	50
47.1	20	8070.3	21	6788.6	21
9.1	20	7280.0	24	5163.0	31
6.9	13	5770.8	29	5458.0	29

88.2	28	88.9	1.5	5.3	-17	25
621.9	18	106.6	7.6	72.7	14	64
140.7	11	112.6	6.5	9.0	24	100
87.7	4	73.7	7.8	7.2	-20	95

MTS Systems (9)
New Brunswick Scientific
Newport (7)
Nicolet Instrument (3)

6.1	5	4590.0	36	4637.0	33
1.5	-38	2916.0	45	3182.2	41
3.7	-1	9501.3	18	10819.9	8
13.7	46	11311.1	14	9026.1	13

128.9	15	97.5	4.7	12.4	7	49
37.5	5	75.0	3.9	2.4	NM	61
53.4	20	136.7	7.0	11.4	23	32
143.7	20	118.6	9.5	-5.5	NM	NE

Oak Industries
Optical Coating Laboratory (10)
Perkin-Elmer (7)
Regency Electronics (6)

3.2	-21	843.3	54	1492.0	52
3.9	-18	3497.7	42	5843.6	26
98.6	-15	8984.0	19	7519.7	19
4.9	11	4513.9	37	3279.6	40

197.8	9	52.4	1.6	10.1	56	31
81.2	17	73.7	4.7	7.3	199	52
1165.5	5	106.2	8.5	103.9	NM	94
68.4	-9	63.3	7.1	-3.0	NM	NE

Reliability
Sun Electric
Tektronix (5)

2.3	0	3399.7	44	4390.6	36
5.3	-20	2175.7	47	2242.9	48
215.6	8	13402.1	5	10384.1	11

41.8	47	62.6	5.4	2.0	75	114
190.0	-7	77.7	2.8	-1.3	NM	NE
1411.9	1	87.8	15.3	15.6	-85	138

Teradyne
Thermo Instrument Systems (6)
Wavetek (9)

61.9	1	13176.0	7	11545.5	6
5.4	33	6738.7	25	6320.8	23
10.2	8	10086.4	16	8905.1	14

462.3	22	98.4	13.4	0.1	NM	518
95.0	21	118.8	5.7	13.6	21	39
84.3	2	83.7	12.1	-8.4	NM	NE

D SEMICONDUCTORS

GROUP COMPOSITE

2066.8 15 7460.9 7560.1

23129.6 24 83.5 8.9 2434.3 49 84

Adaptec (3)
Advanced Micro Devices
Alpha Industries (3)

6.2	14	20979.7	5	22380.0	4
208.3	-16	14060.8	12	13248.5	11
5.6	-20	5422.3	26	5172.7	25

58.8	3	198.6	10.6	5.6	-39	111
1125.9	13	76.0	18.5	19.3	NM	107
62.2	-11	60.4	9.0	-4.7	NM	NE

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R&D SCOREBOARD

R&D EXPENSES

SALES

PROFITS

	CHANGE FROM 1987		PER EMPLOYEE				CHANGE FROM 1987		R&D AS % OF SALES		CHANGE FROM 1987		R&D AS % OF PROFIT	
	1988 \$ MIL.	%	1988 \$	1988 RANK	AVG. 1984-88 \$	AVG. 1984-88 RANK	1988 \$ MIL.	%	PER EMPLOYEE \$ THOUS.		1988 \$ MIL.	%		
Altera	5.7	31	27456.3	3	28367.6	2	37.9	83	183.8	14.9	8.2	280	69.2	
AMP	238.0	17	9875.5	19	8123.4	19	2669.7	15	110.8	8.9	529.2	23	45.0	
Analog Devices (10)	60.5	8	11318.7	17	9024.0	17	439.2	19	82.1	13.8	51.6	102	117.2	
Augat	13.1	-19	3638.9	32	4215.7	29	321.0	2	89.2	4.1	-29.6	NM	NEG	
Avantek	19.8	-2	7761.3	21	7351.4	20	123.5	-23	48.3	16.1	-43.6	NM	NEG	
AVX	11.0	31	1325.3	45	1201.0	46	408.9	50	49.3	2.7	45.0	71	24.5	
Burr-Brown	14.7	19	9963.3	18	7237.0	21	176.7	26	120.1	8.3	20.3	180	72.1	
Chips & Technologies (6)	18.7	167	60827.9	1	51852.7	1	141.5	76	459.3	13.2	36.0	42	52.0	
CTS	4.4	-16	693.9	49	971.5	48	275.6	6	43.2	1.6	0.8	-94	526.5	
Cypress Semiconductor	33.7	78	29098.5	2	22388.7	3	139.4	80	120.5	24.2	32.0	84	105.1	
Dallas Semiconductor	9.2	69	19898.5	7	20189.8	5	58.1	89	125.5	15.9	11.3	287	81.8	
Data Design Laboratories (6)	1.2	52	889.2	48	939.2	49	108.0	27	83.0	1.1	8.5	-17	13.7	
Dotronix (6)	1.3	85	2448.5	42	1638.6	44	40.8	114	79.3	3.1	2.4	1	51.6	
Eldec (3)	5.7	5	3434.5	34	3227.4	34	104.1	5	62.8	5.5	7.4	-24	77.4	
Electromagnetic Sciences	4.2	30	5975.7	25	3312.9	33	67.1	3	95.8	6.2	11.9	-1	35.1	
Exar (3)	10.0	11	18710.8	8	11885.1	13	69.1	23	129.0	14.5	-12.8	NM	NEG	
ILC Technology (9)	1.6	32	2652.5	41	2782.3	38	37.5	19	61.4	4.3	2.9	NM	56.2	
Integrated Device Technologies (3)	18.8	33	14134.8	11	14100.7	9	121.1	56	91.2	15.5	18.1	456	104.0	
Intel	318.3	23	15304.4	10	11526.5	14	2874.8	51	138.2	11.1	629.1	119	50.6	
Intl. Microelectronic Products (3)	8.1	14	20474.7	6	13336.8	10	48.9	35	123.5	16.6	6.3	208	128.6	
International Rectifier (6)	7.7	-4	3350.9	35	3336.8	32	178.6	18	77.3	4.3	-11.9	NM	NEG	
Linear Technology (6)	4.8	43	11684.6	15	11028.7	16	51.3	46	125.5	9.3	11.3	68	42.2	
LPL Investment Group	9.6	31	1468.8	44	1778.0	42	585.4	69	89.9	1.6	16.4	182	58.4	
LSI Logic	37.0	28	11447.5	16	11435.0	15	378.9	45	117.3	9.8	31.2	80	118.5	
Methode Electronics (4)	6.1	17	3088.6	36	2709.0	40	112.7	18	57.1	5.4	8.2	38	74.1	
Micron Technology (8)	9.3	76	4175.3	29	4469.0	27	300.5	230	134.8	3.1	118.2	NM	7.9	
Microsemi (9)	2.3	170	943.3	47	620.9	50	83.7	79	34.6	2.7	3.7	-56	61.8	
Molex (6)	26.6	26	4512.0	27	3957.6	31	502.4	30	85.1	5.3	106.1	40	25.1	
National Semiconductor (5)	280.2	28	7432.4	22	6292.2	22	2469.7	32	65.5	11.3	74.8	NM	374.6	
Nuclear Data (2)	1.1	-43	1713.6	43	2586.9	41	55.1	15	83.5	2.1	-6.4	NM	NEG	
Parlex (6)	2.4	2	3594.1	33	3074.9	35	36.6	2	54.3	6.6	0.2	-95	1178	
Robinson Nugent (6)	1.4	8	2800.0	39	2863.1	36	52.7	15	105.5	2.7	3.2	NM	43.6	
Rogers	9.2	11	2967.6	38	2815.9	37	162.5	12	52.6	5.6	1.4	-70	633.1	
Seeq Technology (9)	8.8	18	17163.1	9	16056.8	7	61.2	37	118.9	14.4	8.9	331	99.8	
Sheldahl (8)	1.6	83	1265.7	46	987.2	47	83.9	5	66.7	1.9	0.9	-81	175.4	
Silicon Systems (9)	10.9	13	8478.9	20	8406.9	18	120.8	48	94.4	9.0	19.9	387	54.6	
Siliconix	18.3	7	6866.6	23	5973.2	23	128.5	5	48.3	14.2	0.9	-83	1953	
Solitron Devices (2)	2.6	41	2740.0	40	1758.0	43	38.3	-23	40.1	6.8	-4.7	NM	NEG	
Sprague Technologies	25.1	12	3061.0	37	2738.8	39	504.6	15	61.5	5.0	20.0	217	125.5	
Standard Microsystems (2)	13.6	-2	22221.5	4	17379.5	6	59.3	11	96.5	23.0	-6.7	NM	NEG	
Texas Instruments	494.0	15	6527.1	24	5334.3	24	6294.8	13	83.2	7.8	516.4	29	95.7	
Thomas & Betts	17.5	-6	3730.0	31	4826.4	26	514.6	18	109.5	3.4	87.4	16	20.1	
Unitrode (1)	9.2	-20	3742.3	3	4284.8	28	163.3	21	66.8	5.6	3.1	NM	292.7	
Veeco Instruments (9)	14.3	18	4480.3	28	4004.2	30	260.3	33	81.4	5.5	30.6	63	46.8	
Vishay Intertechnology	3.2	-3	420.0	50	1354.1	45	109.0	85	14.5	2.9	21.4	75	14.7	
VLSI Technology	21.2	26	12982.2	13	13212.6	12	221.2	29	135.4	9.6	9.3	-1	229.0	
Xicor	10.8	30	11956.7	14	15996.0	8	90.1	39	100.2	11.9	15.2	97	70.7	

FOOD

8

INDUSTRY COMPOSITE	509.2	3	987.4	1602.9			70761.6	9	137.3	0.7	5036.4	-4	10.1
Agway (6)	2.4	-9	153.5	20	213.6	21	2894.0	8	187.3	0.1	42.2	11	5.6
American Crystal Sugar (8)	3.7	18	NA	NR	NA	NR	489.1	15	NA	0.8	13.7	54	27.1
American Maize-Products	2.5	5	797.6	12	750.0	10	547.5	8	176.2	0.5	13.2	-59	18.8
Archer Daniels Midland (6)	5.9	5	655.1	13	559.2	15	6798.4	18	754.9	0.1	571.9	20	1.0
Beatrice (2)	18.0	13	913.7	10	658.5	12	4012.0	2	203.7	0.4	-110.0	NM	NEG
Borden	26.7	7	588.0	14	664.8	11	7243.5	11	159.5	0.4	544.6	15	4.9
Campbell Soup (7)	46.9	5	969.4	8	839.9	9	4868.9	8	100.6	1.0	394.9	-7	11.9
CPC International	29.0	-37	906.3	11	1151.3	6	4700.0	-4	146.9	0.6	494.2	-13	5.9
Dekalb Genetics (8)	9.9	8	12361.5	1	11642.2	1	230.3	7	102.0	12.1	19.3	8	144.6
Farmland Industries (8)	1.2	21	204.7	19	360.4	19	2805.4	9	483.7	0.0	51.0	-8	2.3
General Mills (5)	40.7	7	546.7	15	641.2	13	5178.8	10	69.6	0.8	442.8	9	9.2
Hershey Foods	15.7	21	1297.1	6	473.9	17	2168.0	16	179.2	0.7	236.1	6	6.6



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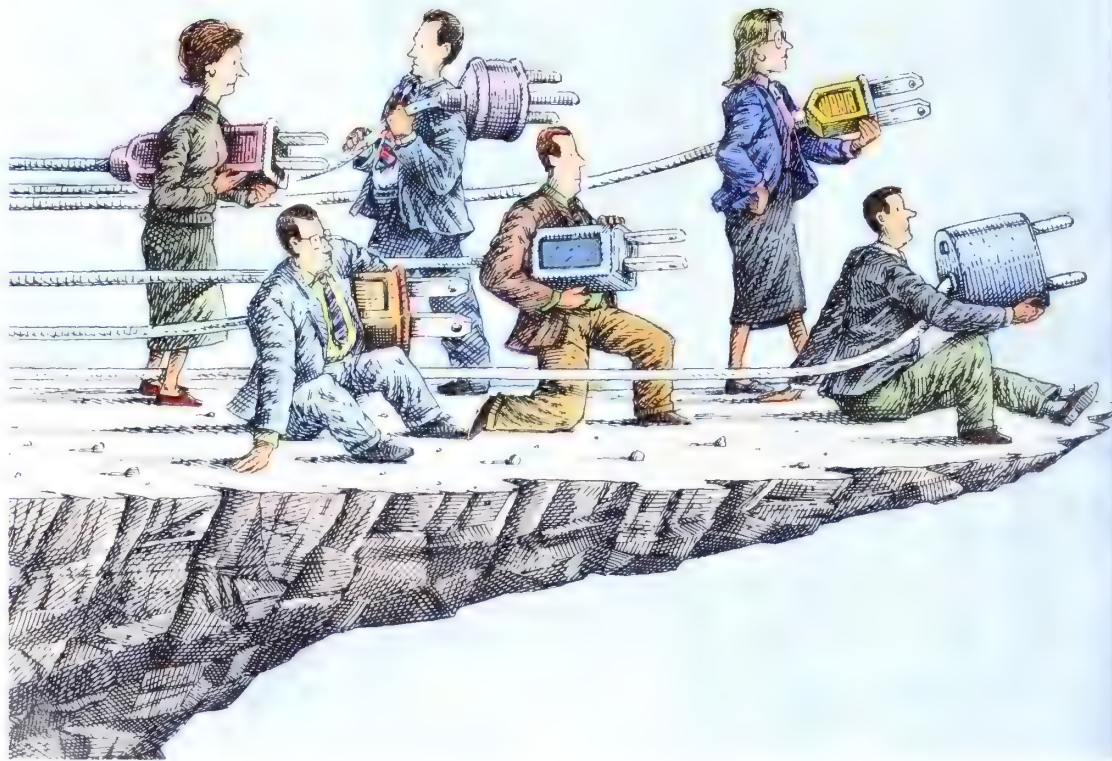
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R&D SCOREBOARD

R&D EXPENSES

SALES

PROFITS

	R&D EXPENSES						SALES						PROFITS		
	1988 \$ MIL.	CHANGE FROM 1987 %	PER EMPLOYEE				1988 \$ MIL.	CHANGE FROM 1987 %	PER EMPLOYEE \$ THOUS.	R&D AS % OF SALES	1988 \$ MIL.	CHANGE FROM 1987 %	R&D AS % OF PROFIT		
			1988 \$	1988 RANK	AVG. 1984-88 \$	AVG. 1984-88 RANK									
Hormel (Geo. A.) (10)	3.9	-7	485.1	17	580.8	14	2292.8	-1	286.8	0.2	95.4	19	4.1		
International Multifoods (2)	1.3	-24	143.7	21	270.6	20	1697.8	21	187.6	0.1	58.0	56	2.2		
Kellogg	42.0	5	2405.4	4	2138.0	4	4348.8	15	249.1	1.0	774.7	16	5.4		
McCormick (11)	7.2	2	941.3	9	929.2	7	1183.9	10	155.2	0.6	58.3	36	12.3		
Pillsbury (5)	44.8	4	440.1	18	414.3	18	6190.6	1	60.8	0.7	156.0	-56	28.7		
Pioneer Hi-Bred International (8)	54.5	9	11729.6	2	10168.7	2	874.9	4	188.3	6.2	103.9	6	52.4		
Quaker Oats (6)	54.6	16	1744.4	5	1328.5	5	5329.8	21	170.3	1.0	413.6	15	13.2		
Ralston Purina (9)	65.5	6	1154.5	7	900.9	8	5875.9	5	103.6	1.1	605.8	-37	10.8		
Spreckels Industries (6)	1.3	NA	510.3	16	510.3	16	310.0	11	122.7	0.4	7.2	-60	17.9		
Universal Foods (9)	13.7	11	2627.3	3	2491.7	3	721.3	1	138.7	1.9	49.6	7	27.6		

FUEL

9A

INDUSTRY COMPOSITE	1703.8	6	3176.5	9950.6	241434.8	5	450.1	0.7	23168.5	19	7.4
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OIL, GAS & COAL

GROUP COMPOSITE	1536.1	5	3612.4	2999.7			230614.5	4	542.3	0.7	22626.6	18	6.8
American Petrofina	8.8	28	2436.7	10	2033.6	10	2634.7	6	732.9	0.3	203.7	46	4.3
Amoco	272.0	8	5091.4	3	4467.5	3	21150.0	5	395.9	1.3	3307.0	32	8.2
Ashland Oil (9)	16.4	-5	435.2	13	446.0	13	7826.1	16	208.1	0.2	271.0	39	6.0
Atlantic Richfield	114.0	13	4191.2	6	3805.1	5	17626.0	8	648.0	0.6	2820.0	30	4.0
Calumet Industries (9)	0.7	85	4602.6	5	3107.6	7	39.3	1	251.8	1.8	-3.7	NM	NEG
Chevron	208.0	-3	3875.2	8	5494.5	1	25196.0	-3	469.4	0.8	2899.0	5	7.2
Exxon	551.0	5	5455.4	2	5261.1	2	79557.0	4	787.7	0.7	8654.0	11	6.4
Kerr-McGee	13.0	44	1672.9	11	1312.6	11	2689.0	6	346.0	0.5	157.0	24	8.3
Nacco Industries	3.9	63	597.2	12	597.2	12	616.5	32	94.4	0.6	60.3	27	6.5
Occidental Petroleum	21.0	17	400.0	14	407.1	14	19417.0	14	369.8	0.1	617.0	-19	3.4
Phillips Petroleum	101.0	7	4809.5	4	4313.1	4	11304.0	5	538.3	0.9	1115.0	319	9.1
Texaco	170.0	0	4065.0	7	3277.6	6	33544.0	-2	802.1	0.5	2474.0	NM	6.9
Triton Energy (5)	4.4	156	5944.6	1	2355.6	9	162.1	71	219.0	2.7	6.4	NM	68.8
Unocal	52.0	-2	2851.7	9	3066.8	8	8853.0	5	485.5	0.6	46.0	-83	113.0

B

PETROLEUM SERVICES

GROUP COMPOSITE	167.7	14	1508.6		3025.5		10820.3	22	97.4	1.6	541.8	NM	30.9
Baker Hughes (9)	26.1	-12	1212.8	9	1487.1	6	2316.2	20	107.8	1.1	134.5	NM	19.4
Cameron Iron Works (6)	16.0	3	2984.0	4	2927.3	4	501.6	3	93.5	3.2	-21.0	NM	NEG
CBI Industries	5.1	22	450.2	10	378.3	10	1375.7	18	120.7	0.4	53.6	2	9.6
Digicon (7)	3.2	28	2912.7	5	2778.9	5	74.2	40	67.5	4.3	-6.4	NM	NEG
Halliburton	81.0	33	1319.2	7	1259.2	7	4825.7	26	78.6	1.7	151.5	159	53.5
NL Industries	14.1	-4	3760.0	3	3454.7	3	1007.0	17	268.5	1.4	261.1	39	5.4
Smith International	13.6	24	5230.8	2	3788.0	2	320.8	21	123.4	4.2	-19.6	NM	NEG
Varco International	4.0	0	7040.9	1	11677.6	1	68.0	85	120.8	5.8	2.5	NM	156.6
Weatherford International	1.7	18	1248.5	8	1258.2	8	122.2	17	90.4	1.4	1.9	NM	89.1
Western Co. of North America	2.9	6	1373.4	6	1245.3	9	208.9	18	98.3	1.4	-16.2	NM	NEG

HEALTH CARE

10A

INDUSTRY COMPOSITE	6620.1	19	10196.0	23587.9	80552.8	13	124.1	8.2	13869.9	14	47.7
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DRUGS & RESEARCH

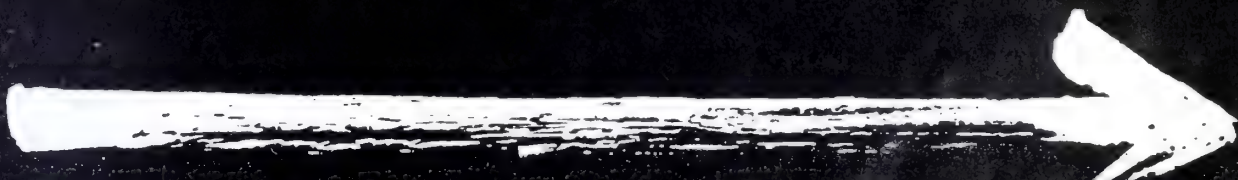
GROUP COMPOSITE	4244.5	19	13547.0	15866.9	42250.8	13	134.9	10.0	8586.5	13	49.4		
A. L. Laboratories	5.6	21	3287.6	30	2622.9	31	236.5	49	139.1	2.4	17.5	28	31.9
Alza	29.4	28	45578.3	4	39307.3	4	74.0	19	114.7	39.7	25.0	7	117.6
American Home Products	263.8	7	5865.8	26	5032.9	27	5500.5	9	122.3	4.8	1348.5	5	19.6
Amgen (3)	39.6	62	112269.0	1	86891.0	1	44.3	48	125.4	89.5	2.1	30	191.1
Barr Laboratories (6)	1.9	-28	5500.0	27	7282.7	18	56.6	-6	161.6	3.4	2.7	-66	71.3
Biocraft Laboratories (3)	3.3	23	7415.9	24	6554.1	21	99.6	102	226.3	3.3	24.6	97	13.3
Bolar Pharmaceutical	14.2	94	41272.5	5	23501.0	6	128.0	34	370.9	11.1	42.9	37	33.2
Carter-Wallace (3)	33.2	21	8348.0	20	7073.6	19	483.1	7	121.4	6.9	61.0	12	54.4
Centocor	33.8	22	78658.1	2	67680.6	2	55.2	7	128.4	61.3	7.1	-46	475.7
Cetus (6)	9.9	48	12104.9	15	9127.9	15	45.4	13	55.3	21.9	-22.4	NM	NEG
Diagnostic Products	6.1	25	14018.4	12	13843.0	10	47.0	27	108.3	12.9	17.9	33	34.0
E-Z-Em (5)	2.1	-8	2923.6	31	2858.8	30	59.8	21	83.1	3.5	10.0	18	21.1



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R&D SCOREBOARD

R&D EXPENSES

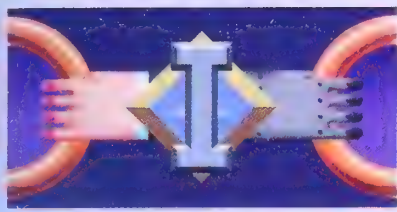
SALES

PROFITS

	CHANGE FROM 1987		PER EMPLOYEE				CHANGE FROM 1987		PER EMPLOYEE \$ THOUS.	R&D AS % OF SALES	CHANGE FROM 1987		R&D AS % OF PROFITS
	1988 \$ MIL.	%	1988 \$	1988 RANK	AVG. 1984-88 \$	AVG. 1984-88 RANK	1988 \$ MIL.	%			1988 \$ MIL.	%	
Forest Laboratories (3)	5.9	49	8814.1	19	6934.4	20	81.5	27	122.2	7.2	22.2	36	26.5
Genentech	111.7	65	64037.3	3	49062.6	3	322.8	48	185.1	34.6	23.1	-47	483.3
ICN Pharmaceuticals (11)	11.4	37	5159.1	28	3509.6	28	166.3	37	75.6	6.8	4.2	NM	268.8
IVAX	2.7	216	6959.2	25	5479.6	26	60.9	142	155.3	4.5	-2.7	NM	NEG
Life Technologies	8.7	21	7920.0	22	5815.8	25	129.7	7	117.9	6.7	19.5	4	44.8
Lilly (Eli)	540.8	16	20254.7	8	15634.2	8	4069.7	12	152.4	13.3	1115.8	88	48.5
LyphoMed	17.0	106	15363.5	11	6518.4	22	127.9	-26	115.6	13.3	-37.5	NM	NEG
Marion Laboratories (6)	118.4	45	34419.3	6	23766.3	5	752.0	26	218.5	15.8	222.9	28	53.1
Maxwell Laboratories (7)	2.4	37	3374.3	29	3109.3	29	66.1	5	94.4	3.6	5.9	14	39.9
Merck	668.8	18	20900.0	7	15961.9	7	5939.5	17	185.6	11.3	1914.7	33	34.9
Mylan Laboratories (3)	4.5	1	10927.4	18	12282.0	11	96.0	1	232.5	4.7	37.4	-10	12.1
Par Pharmaceutical (9)	6.5	61	7438.6	23	6287.3	24	99.5	27	113.1	6.6	19.8	0	33.1
Pfizer	472.5	18	11552.6	17	8715.1	16	5385.4	9	131.7	8.8	1103.8	9	42.8
Rorer Group	102.8	26	12242.6	14	8541.0	17	1041.6	12	124.1	9.9	95.1	8	108.0
Schering-Plough	297.9	19	13299.1	13	9662.4	14	2969.4	10	132.6	10.0	533.9	17	55.8
SmithKline Beckman	495.1	17	11912.9	16	10668.6	12	4749.0	10	114.3	10.4	308.4	-62	160.5
SPI Pharmaceuticals (11)	1.0	29	718.0	32	401.5	32	115.9	47	79.3	0.9	14.6	-5	7.2
Squibb	293.6	33	16240.3	10	10520.9	13	2585.8	20	143.0	11.4	603.5	18	48.6
Upjohn	380.4	7	17861.1	9	15273.2	9	2753.5	9	129.3	13.8	506.9	15	75.1
Warner-Lambert	259.4	12	7932.7	21	6293.8	23	3908.4	14	119.5	6.6	538.3	9	48.2

B MEDICAL PRODUCTS & SERVICES

GROUP COMPOSITE	2375.6	18	7062.2	5685.2	38302.1	14	114.0	6.2	5283.4	17	45.0		
Abbott Laboratories	454.6	26	11732.3	5	8534.7	10	4937.0	13	127.4	9.2	1055.5	13	43.1
Acuson	17.6	49	20459.8	1	18893.5	1	168.5	60	196.2	10.4	43.6	54	40.3
ADAC Laboratories (9)	4.9	5	12939.0	3	15881.4	2	80.2	32	212.7	6.1	11.7	158	41.6
Andersen Group (2)	4.7	13	8605.8	13	7300.1	13	49.2	7	89.8	9.6	-8.8	NM	NEG
Bard (C. R.)	34.1	38	4133.3	27	2935.0	29	757.5	18	91.8	4.5	123.8	25	27.5
Bausch & Lomb	31.0	17	3104.8	29	2909.4	31	978.3	16	97.8	3.2	147.4	9	21.1
Baxter International	238.0	20	3718.8	28	3183.1	28	6861.0	10	107.2	3.5	518.0	16	45.9
Becton, Dickinson (9)	93.3	15	4526.9	25	3824.2	26	1709.4	17	83.0	5.5	206.3	10	45.2
Biomet (5)	6.8	189	7706.1	15	4779.5	21	97.6	75	109.9	7.0	20.3	41	33.8
Bristol-Myers	394.1	15	11196.0	7	8665.7	8	5972.5	11	169.7	6.6	1285.3	15	30.7
Circon	4.2	-4	7223.4	17	6122.0	18	41.4	0	71.2	10.2	-2.5	NM	NEG
Cobe Laboratories	17.2	19	6639.5	19	6533.2	16	226.6	17	87.3	7.6	16.4	3	105.1
Comnet (3)	2.2	86	5576.9	22	4568.1	22	44.6	10	114.4	4.9	-0.8	NM	NEG
CompuChem	1.3	20	2602.8	34	2229.3	33	37.3	61	74.4	3.5	5.0	NM	25.9
Concept (8)	2.7	37	5061.2	24	3950.6	25	42.8	15	79.4	6.4	5.8	16	47.1
Cooper (10)	53.9	145	9846.4	10	5616.4	19	611.3	72	111.8	8.8	-141.1	NM	NEG
Cordis (6)	10.8	26	6228.2	20	7309.3	12	132.0	23	75.9	8.2	12.7	616	85.4
Dahlberg	1.1	-4	1253.2	41	976.1	44	61.9	17	71.6	1.8	1.6	-4	66.0
Damon (8)	2.1	-3	618.8	44	1917.6	38	208.1	22	61.2	1.0	14.6	-5	14.4
Datascope (6)	7.4	21	7481.4	16	6160.5	17	105.2	20	105.9	7.1	15.6	55	47.6
DiaSonics	20.3	10	12242.8	4	11156.1	7	281.6	5	169.6	7.2	11.5	-32	177.0
Fisher Scientific Group	28.3	-18	4462.5	26	4881.3	20	957.7	5	150.8	3.0	51.3	15	55.3
Fonar (6)	6.4	47	10357.1	8	14148.0	6	58.9	41	95.6	10.8	2.6	12	245.6
Healthdyne	1.7	33	1396.7	40	2022.0	36	101.2	32	84.4	1.7	-5.1	NM	NEG
Interspec (11)	8.2	7	15867.7	2	15624.1	3	56.7	19	110.3	14.4	1.4	NM	595.8
Invacare	3.0	15	1709.7	38	1351.5	41	160.8	23	91.9	1.9	8.4	73	35.7
IpcO (6)	1.0	21	365.0	45	313.9	45	216.6	3	78.0	0.5	-0.7	NM	NEG
Johnson & Johnson	674.0	9	8290.3	14	6981.6	14	9000.0	12	110.7	7.5	1396.0	17	48.3
Kirschner Medical	1.7	108	2630.8	33	4506.2	23	45.2	164	70.4	3.7	2.2	30	76.4
Marquest Medical Products (3)	0.6	-13	861.3	43	1197.5	43	50.7	39	73.3	1.2	-3.7	NM	NEG
MDT (3)	2.2	488	2383.9	35	2557.9	32	70.4	489	75.7	3.2	5.5	463	40.4
Medtronic (4)	53.1	26	9274.4	11	8178.9	11	653.3	30	114.1	8.1	131.1	21	40.5
Mentor (3)	1.4	39	3041.8	31	2099.1	34	39.7	21	87.3	3.5	10.1	28	13.7
Mine Safety Appliances	14.4	-4	2721.7	32	2098.6	35	397.4	4	75.0	3.6	41.0	79	35.2
Nellcor (6)	9.7	13	NA	NR	NA	NR	95.5	18	NA	10.1	17.0	-3	57.0
Nichols Institute	1.7	71	982.9	42	1228.8	42	90.7	64	53.4	1.8	4.7	84	35.7
Optical Radiation (7)	4.7	9	3101.3	30	2914.6	30	101.5	1	67.7	4.6	10.7	7	43.3
Puritan-Bennett	13.3	38	6227.6	21	4396.8	24	204.4	18	95.5	6.5	21.6	11	61.8
Robins (A. H.)	64.2	10	9882.2	9	8583.0	9	933.8	9	143.7	6.9	94.7	NM	67.8
Scherer (R. P.) (3)	8.3	45	1875.0	37	1834.7	39	290.7	27	66.1	2.8	27.6	19	29.9



R&D SCOREBOARD

R&D EXPENSES

SALES

PROFITS

	CHANGE FROM 1987		PER EMPLOYEE				CHANGE FROM 1987		PER EMPLOYEE \$ THOUS.	R&D AS % OF SALES	CHANGE FROM 1987		R&D AS % OF PROFITS
	1988 \$ MIL.	%	1988 \$	1988 RANK	AVG. 1984-88 \$	AVG. 1984-88 RANK	1988 \$ MIL.	%			1988 \$ MIL.	%	
St. Jude Medical	2.7	5	6792.0	18	14589.9	5	114.1	59	285.9	2.4	50.0	70	5.4
Stryker	12.2	37	8659.8	12	6607.7	15	178.6	21	126.9	6.8	26.0	18	46.9
Sunrise Medical (6)	2.5	43	1659.6	39	1412.7	40	140.3	22	92.4	1.8	5.6	764	45.0
Sybron Acquisition (9)	6.2	45	1961.9	36	1961.9	37	283.8	NA	89.3	2.2	-5.4	NA	NEG
U. S. Surgical	14.0	39	5408.0	23	3364.9	27	290.9	15	112.4	4.8	31.7	10	44.2
Westmark International	37.8	35	11700.6	6	14827.1	4	365.3	25	113.2	10.3	17.6	NM	215.1

HOUSING & CONSTRUCTION

INDUSTRY COMPOSITE	494.7	0	2578.1	2989.0			26408.3	6	137.6	1.9	2225.9	-5	22.2
American Standard	50.0	2	1466.3	13	1136.4	17	3716.2	9	109.0	1.3	-23.5	NM	NEG
Ameron (11)	3.3	10	1100.0	17	1305.2	13	363.6	18	121.2	0.9	17.3	-22	19.1
Blount (2)	9.0	-3	1106.3	15	952.7	18	1231.5	0	152.0	0.7	14.3	6	62.7
De Soto	10.9	4	5432.1	4	8966.5	1	402.5	6	200.9	2.7	6.6	-66	165.9
Formica	3.1	-9	1002.6	19	906.7	19	432.2	5	139.4	0.7	64.4	146	4.8
Green (A. P.) Industries	1.9	-18	1103.3	16	1226.8	15	191.4	10	112.3	1.0	13.1	327	14.3
Guardsman Products	4.5	8	4860.0	5	4586.7	5	145.1	14	155.0	3.1	9.7	9	46.7
Jepson	2.2	-4	408.4	23	406.1	23	560.1	6	102.3	0.4	21.1	-36	10.6
Lafarge	7.0	-1	1000.0	20	852.2	20	1309.2	7	187.0	0.5	154.0	21	4.5
Lilly Industrial Coatings (11)	9.0	1	7623.1	1	7415.1	2	196.8	7	167.0	4.6	18.5	-2	48.6
Manville	36.0	9	1972.6	11	1740.3	12	2062.2	7	113.0	1.7	155.0	-43	23.2
Moore (Benjamin)	8.6	8	4623.7	6	4096.2	7	412.6	10	221.8	2.1	59.5	1	14.4
Owens-Corning Fiberglas	30.0	3	1704.5	12	2091.8	11	2831.0	-2	160.9	1.1	324.0	-9	9.3
PPG Industries	227.0	-3	6253.4	3	5330.2	4	5616.7	8	154.7	4.0	788.3	23	28.8
Pratt & Lambert	5.8	12	3471.9	9	2771.3	9	232.9	3	139.2	2.5	11.9	-23	48.7
Sherwin-Williams	16.7	25	1005.9	18	777.3	21	1950.5	8	117.4	0.9	163.0	1	10.2
Tennant	7.6	1	4405.6	7	4274.4	6	183.9	10	106.5	4.1	19.7	13	38.6
TJ International	2.7	-13	985.2	21	1204.4	16	315.0	23	116.7	0.8	29.8	23	8.9
Tokheim (11)	7.9	-8	3248.5	10	3700.2	8	203.1	6	83.0	3.9	12.9	-23	61.8
USG	21.2	-13	1383.9	14	1249.8	14	2248.0	0	146.9	0.9	120.9	-60	17.5
Valspar (10)	17.2	1	6862.3	2	6128.1	3	479.6	7	191.5	3.6	29.4	-8	58.5
Vulcan Materials	4.6	0	734.2	22	752.9	22	1053.2	14	166.4	0.4	206.2	15	2.3
Welbilt	8.4	51	4257.6	8	2620.9	10	271.0	17	136.9	3.1	9.6	-55	88.3

LEISURE TIME INDUSTRIES

INDUSTRY COMPOSITE	1620.6	12	5308.8		3323.7		35107.7	19	115.0	4.6	2884.1	10	56.2
AFP Imaging (6)	1.0	115	3009.1	11	2916.0	8	43.4	121	131.4	2.3	1.2	17	84.8
Anthony Industries	2.2	10	687.5	25	837.6	22	308.4	17	96.4	0.7	16.1	27	13.6
Bally Mfg.	14.0	-6	423.5	26	376.4	26	1867.3	12	56.5	0.8	66.9	942	20.9
Brunswick	71.6	17	2512.3	13	2060.1	13	3282.0	6	115.2	2.2	316.5	5	22.6
Coachmen Industries	3.5	-26	994.1	21	724.2	25	408.5	11	115.3	0.9	5.8	NM	60.7
Coleco Industries	3.7	-63	10885.3	3	5057.3	5	185.2	-63	544.8	2.0	-266.6	NM	NEG
Coleman	7.0	-3	1170.0	17	1290.0	18	657.9	10	109.7	1.1	43.1	25	16.3
Eastman Kodak	1147.0	16	7894.0	4	7784.1	3	17034.0	28	117.2	6.7	2236.0	13	51.3
Fleetwood Enterprises (4)	10.4	6	990.5	22	876.4	20	1406.0	12	133.9	0.7	76.3	3	13.6
Galoob (Lewis) Toys	4.4	5	18168.0	1	16702.6	1	140.1	109	574.1	3.2	7.2	NM	61.9
Golden Nugget	3.7	139	946.2	23	730.9	24	175.0	-10	44.9	2.1	-11.4	NM	NEG
Harley-Davidson	8.2	64	1640.0	16	1926.3	15	757.4	11	151.5	1.1	46.0	49	17.8
Harman International (6)	7.0	14	1907.1	14	2311.7	12	468.2	43	128.3	1.5	20.8	38	33.4
Hasbro	62.4	-10	7614.5	5	6455.5	4	1357.9	1	165.6	4.6	131.4	32	47.5
Johnson Worldwide Assocs. (9)	4.6	27	3162.3	10	2686.5	11	247.0	20	169.2	1.9	18.8	35	24.6
Keystone Camera Products	0.8	-9	1035.1	20	854.6	21	46.5	-8	62.8	1.6	-9.1	NM	NEG
Lumex	3.9	14	3478.0	8	2842.8	9	79.3	6	71.1	4.9	1.1	-48	366.2
Mattel	30.8	-12	2801.9	12	2013.0	14	990.0	-3	90.0	3.1	57.5	NM	53.6
Outboard Marine (9)	44.3	10	3429.4	9	3949.6	6	1605.1	25	124.4	2.8	122.9	32	36.0
Polaroid	149.2	5	12847.7	2	10217.9	2	1862.9	6	160.4	8.0	20.9	-87	713.9
SPI Holdings	1.3	-1	1660.3	15	1548.4	16	113.0	16	143.2	1.2	-56.7	NM	NEG
Tonka	26.8	111	6536.6	6	3480.6	7	907.7	137	221.4	3.0	3.4	NM	788.2
Tyco Toys	4.7	89	4426.0	7	2687.7	10	263.8	61	248.6	1.8	18.5	89	25.3
United Gaming (6)	0.7	4	1144.8	18	1405.7	17	52.1	31	89.8	1.3	5.6	-26	11.8
Wilson Sporting Goods	3.7	9	795.4	24	748.0	23	424.1	24	91.3	0.9	8.8	120	41.8
Winnebago Industries (8)	3.8	-41	1073.4	19	1162.4	19	425.1	5	121.4	0.9	2.9	-91	129.5

"The Audi 90 follows the road like a bloodhound," one awed reviewer recently wrote.

True enough. But while an Audi adheres to the asphalt, it adheres to very little else. Because the Audi 80/90 Sports Sedans follow an alternate route.

Look at the evidence. It's sculpted of 100% zinc-galvanized steel. Uniquely shaped to smooth-talk the wind out of resisting. (And quite dashing, we might add, under its painstaking 27-step paint process.)

Then, drive the evidence. The maverick five-cylinder powerplant will shatter your preconceptions as easily as its motorsport cousins shattered ten world speed records. The confident inspiring front-wheel drive (a system pioneered by Audi) embodies



Tell an Audi Sports Sedan to hit the road and it will stick like proverbial glue.

The Only Thing It Conforms To Is The Road.



The 90 Quattro Sports Sedan.

8 years of continuous refinements. And the available all-wheel Quattro drive is so highly evolved, it can actually improve traction by 100%.

No wonder *Car and Driver* concluded: "The driving experience is very bit as polished as the exterior shape. Sit down, strap in, and prepare for a momentous ride."

Prepare for some rather momentous protection, as well. Because every Audi comes equipped with the Audi Advantage—for unequalled security. Security, in fact, from delivery to trade-in. (Your dealer will be proud to share the details.)

So why not pursue an alternate route? In an Audi 80/90 Sports Sedan. And conform to the only thing that matters.



The road.

The Alternate Route.





R&D SCOREBOARD

R&D EXPENSES

SALES

PROFITS

1988 \$ MIL.	CHANGE FROM 1987 %	PER EMPLOYEE			
		1988 \$	1988 RANK	AVG. 1984-88 \$	AVG. 1984-88 RANK

1988 \$ MIL.	CHANGE FROM 1987 %	PER EMPLOYEE \$ THOUS.	R&D AS % OF SALES	1988 \$ MIL.	CHANGE FROM 1987 %	R&D AS % OF PROF.

1988 \$ MIL.	CHANGE FROM 1987 %	R&D AS % OF PROF.

MANUFACTURING

13A

INDUSTRY COMPOSITE	2309.6	8	3026.3	31010.3	87925.6	16	115.5	2.6	7247.9	31	31.9
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GENERAL MANUFACTURING

GROUP COMPOSITE	1083.0	9	3757.5	2113.4			32405.6	12	112.4	3.3	3751.9	21	28.9
Allied Research	1.9	38	3817.3	6	3170.1	9	34.2	-42	68.6	5.6	-8.8	NM	NEG
American Filtrona	3.5	8	3213.6	11	2952.7	11	134.0	10	121.8	2.6	9.7	2	36.3
Artra Group	0.9	-13	305.5	43	252.9	42	162.3	-5	56.7	0.5	-16.7	NM	NEG
Avery International (11)	31.6	11	2744.5	17	2293.7	18	1582.0	8	137.4	2.0	127.8	64	24.7
Bic	4.5	8	2064.1	23	1823.7	22	294.9	1	134.0	1.5	44.3	-12	10.2
Brady (W. H.) (7)	5.9	9	3466.4	9	3353.6	7	153.0	21	90.2	3.8	17.3	5	34.0
Central Sprinkler (10)	1.2	19	3004.9	13	2707.6	14	60.3	20	147.1	2.0	7.9	29	15.5
Clairson International (9)	3.4	161	2976.3	14	2112.5	20	104.2	27	91.5	3.3	-22.4	NM	NEG
Corning	95.2	-5	3619.8	7	3743.9	6	2121.5	2	80.7	4.5	397.8	63	23.9
Crane	12.0	12	1100.9	33	988.0	35	1313.1	19	120.5	0.9	81.5	38	14.7
Dallas	3.2	3	981.6	36	796.7	37	322.6	5	99.0	1.0	12.8	24	24.9
Donnelly (6)	9.5	34	5414.3	3	5307.2	3	157.1	25	89.8	6.0	7.2	0	132.4
Elco Industries (6)	1.2	37	762.2	39	346.5	41	140.5	10	92.8	0.8	12.6	47	9.2
Eldon Industries	1.9	27	2757.4	16	2248.6	19	101.4	20	150.0	1.8	12.3	22	15.2
Emhart	41.0	3	1242.8	31	1280.8	30	2762.5	13	83.7	1.5	211.0	14	19.4
Envirodyne Industries	9.4	1	1959.8	25	1146.9	31	488.4	3	101.7	1.9	75.1	6	12.5
Essee (9)	2.2	43	2189.0	22	1862.5	21	132.7	29	132.7	1.7	3.7	-56	59.8
First Brands (6)	8.1	-7	2194.3	20	2380.3	17	935.6	12	252.9	0.9	-12.1	NM	NEG
Fluorocarbon (1)	3.3	60	1235.3	32	247.1	43	249.8	43	94.7	1.3	17.5	66	18.6
Harsco	11.7	18	1005.5	35	804.8	36	1279.0	9	110.3	0.9	54.4	-50	21.5
Hexcel	12.2	3	3477.9	8	3182.9	8	399.2	14	113.8	3.1	25.9	20	47.1
Hi-Shear Industries (5)	2.7	-16	2663.0	18	3088.3	10	78.5	2	78.5	3.4	7.3	-8	36.7
Hillenbrand Industries (11)	18.3	69	2283.1	19	1442.9	25	884.3	22	110.5	2.1	120.4	9	15.2
Illinois Tool Works	26.6	7	1872.4	26	1349.9	28	1929.8	14	135.9	1.4	232.8	17	11.4
International Game Technology (9)	5.3	14	5009.4	4	5207.4	4	98.7	19	92.8	5.4	12.3	415	43.5
Ladish	2.3	-22	844.8	38	994.7	34	273.8	-1	101.4	0.8	-4.8	NM	NEG
Lydall	2.8	4	3393.9	10	2466.1	15	114.7	16	139.0	2.4	8.0	23	35.0
Material Sciences (2)	2.4	61	3156.9	12	2797.0	13	152.3	21	197.5	1.6	9.6	22	25.4
Minnesota Mining & Mfg.	689.0	10	8319.4	1	6764.8	1	10581.0	12	127.8	6.5	1882.0	20	36.6
Nibco	1.5	-12	569.9	40	579.1	39	277.8	2	105.5	0.5	20.9	179	7.2
Norton	26.0	-1	1614.9	28	1782.0	23	1410.1	12	87.6	1.8	139.4	43	18.7
Nuclear Metals (9)	1.2	75	2027.4	24	1735.0	24	45.7	8	78.1	2.6	2.2	NM	55.1
Oil-Dri Corp. of America (7)	0.8	3	1500.0	29	1360.2	27	68.1	14	123.9	1.2	8.6	7	9.6
Penn Engineering & Mfg.	0.7	-5	871.3	37	1130.5	32	66.1	20	85.1	1.0	8.9	26	7.6
Quixote (6)	2.6	-13	4968.9	5	4872.5	5	55.9	26	108.6	4.6	2.7	NM	95.6
Robertson (H. H.)	1.9	-5	366.3	42	531.8	40	413.7	32	79.7	0.5	-32.0	NM	NEG
Rubbermaid	11.6	-2	1460.6	30	1411.3	26	1193.5	18	149.9	1.0	159.5	8	7.3
Sealed Air	7.0	25	2935.4	15	2869.4	12	345.6	14	145.8	2.0	41.8	22	16.6
SPS Technologies	6.4	6	1070.3	34	1034.5	33	427.3	14	72.0	1.5	30.6	24	20.7
Valmont Industries	1.6	23	414.9	41	743.5	38	662.7	49	171.9	0.2	26.5	123	6.0
Varitronic Systems (7)	1.2	-2	5903.8	2	6690.0	2	44.6	69	214.7	2.8	8.4	238	14.6
WMS Industries (6)	3.1	-23	2191.1	21	2464.0	16	81.3	NA	57.4	3.8	-1.8	NA	NEG
Wyman Gordon	4.5	36	1655.2	27	1340.5	29	271.6	-12	100.6	1.6	9.8	-64	45.8

B

MACHINE & HAND TOOLS

GROUP COMPOSITE	184.0	6	1970.9	1949.8	9666.0	12	103.6	1.9	681.3	19	27.0		
Acme-Gardner (9)	1.5	-31	578.2	17	535.4	17	176.1	0	70.1	0.8	-27.8	NM	NEG
Best Lock	0.6	3	827.5	14	688.7	15	60.5	12	87.7	0.9	8.0	-2	7.1
Black & Decker (9)	50.7	25	2437.9	5	1836.5	8	2280.9	18	109.7	2.2	125.7	80	40.3
Brown & Sharpe Mfg.	7.8	-5	3962.2	2	3832.6	3	180.5	19	92.2	4.3	4.7	NM	165.5
Cincinnati M.	35.3	-1	4216.9	1	3969.4	2	857.8	4	102.5	4.1	43.7	NM	80.8
Clark Equipm.	20.8	-11	2300.1	6	2490.0	6	1278.3	21	141.4	1.6	92.6	NM	22.5
Cross & Trecker (9)	11.2	10	2798.0	4	3014.9	4	428.1	1	107.0	2.6	-34.1	NM	NEG
Easco Hand Tool	1.5	-21	670.5	16	731.6	13	206.8	6	92.5	0.7	16.1	6	9.3
Gleason	6.5	9	2064.5	7	1739.3	9	210.7	-8	66.6	3.1	-2.6	NM	NEG
Kennametal (6)	9.8	-5	1955.3	8	2141.2	7	419.9	18	84.1	2.3	41.7	32	23.4
Met-Coil Systems	1.8	11	2873.4	3	4309.0	1	52.0	3	81.3	3.5	2.3	135	80.6

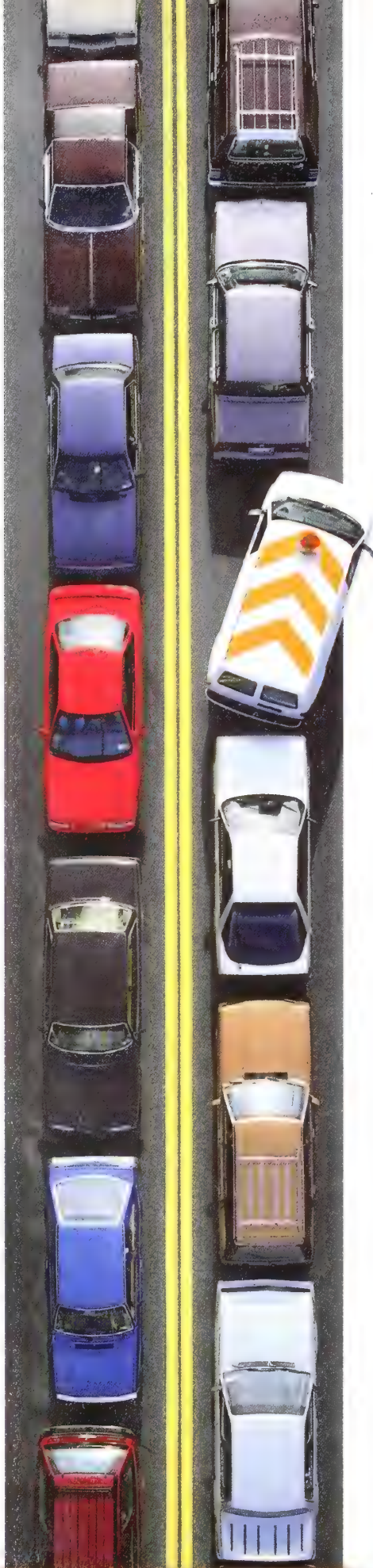
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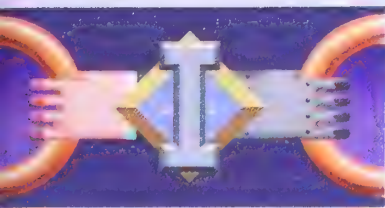
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R&D SCOREBOARD

R&D EXPENSES

SALES

PROFITS

	1988 \$ MIL.	CHANGE FROM 1987 %	PER EMPLOYEE				1988 \$ MIL.	CHANGE FROM 1987 %	PER EMPLOYEE \$ THOUS.	R&D AS % OF SALES	1988 \$ MIL.	CHANGE FROM 1987 %	R&D AS % OF PROFITS
			1988 \$	1988 RANK	AVG. 1984-88 \$	AVG. 1984-88 RANK							
Raymond	2.5	30	1560.6	11	2705.2	5	173.1	20	108.7	1.4	3.0	66	84.2
Rule Industries (8)	0.6	22	1683.4	10	1482.5	11	39.7	9	104.9	1.6	0.5	-82	119.7
Snap-on Tools	13.2	7	1835.7	9	1587.6	10	892.6	13	124.0	1.5	182.8	17	7.2
Stanley Works	13.3	3	698.1	15	595.1	16	1909.0	8	100.5	0.7	172.5	4	7.7
Starrett (L. S.) (6)	2.5	55	903.5	13	716.4	14	169.9	19	60.7	1.5	24.8	2	10.2
Vermont American	4.4	16	1112.7	12	984.4	12	330.0	13	83.0	1.3	27.3	-15	16.2

SPECIAL MACHINERY

GROUP COMPOSITE	1000.5	10	3222.9	3953.9		39477.9	23	128.0	2.5	2770.1	56	36.1	
Allis-Chalmers	0.4	-82	8625.0	5	3392.8	15	3.2	15	67.7	12.7	-2.6	NM	NEG
Applied Materials (10)	43.5	39	24632.9	2	21719.8	2	362.8	108	205.5	12.0	66.7	NM	65.2
Applied Power (8)	4.7	12	2941.5	19	2645.2	20	177.1	37	111.4	2.6	22.9	124	20.4
Astec Industries	2.9	-19	1759.7	34	1759.7	30	176.6	0	108.8	1.6	6.6	60	43.6
B-E Holdings	2.3	-47	2683.5	21	3323.9	17	138.7	NA	163.2	1.6	-17.3	NA	NEG
Baldwin Technology (6)	1.9	-6	3094.2	16	3626.5	13	95.5	27	155.0	2.0	15.3	105	12.5
Binks Mfg. (11)	2.5	136	1533.1	36	868.8	42	194.9	6	119.6	1.3	10.9	-18	23.0
Briggs & Stratton (6)	10.3	0	1047.3	41	1030.7	41	914.1	17	93.0	1.1	43.2	-5	23.8
Caterpillar	182.0	14	3140.4	15	3437.4	14	10435.0	26	180.1	1.7	878.0	101	20.7
CMI	5.4	-28	5581.2	11	4070.3	12	89.5	-42	93.2	6.0	6.5	299	82.7
Commercial Intertech (10)	6.0	16	1506.3	37	1155.1	39	398.7	24	99.7	1.5	30.4	58	19.8
Deere (10)	215.9	1	5642.2	9	5613.1	7	5364.8	30	140.2	4.0	319.6	NM	67.5
Dover	52.8	15	2586.3	23	2202.8	25	1953.8	23	95.7	2.7	224.8	24	23.5
Dresser Industries (10)	27.4	-15	892.5	44	1315.8	36	3941.7	26	128.4	0.7	193.2	293	14.2
Duriron	4.5	10	2052.3	27	1760.5	29	230.9	27	104.9	2.0	24.7	126	18.3
Farr	2.2	16	2174.4	26	1881.9	28	72.6	12	73.2	3.0	4.1	69	52.6
FMC	143.6	9	5900.3	8	5367.3	8	3286.9	5	135.0	4.4	197.8	-6	72.6
Gencor Industries	0.6	3	996.6	43	1695.5	33	56.8	37	97.6	1.0	0.3	-74	183.0
Genus	7.7	71	NA	NR	NA	NR	55.2	263	NA	14.0	3.5	NM	217.5
GEO International (9)	1.5	NM	746.1	45	861.6	43	170.5	58	82.6	0.9	7.6	43	20.3
Goulds Pumps	5.0	-7	1219.5	39	1219.5	37	454.4	18	110.8	1.1	34.5	21	14.5
Graco	10.9	13	4974.9	13	4223.3	11	267.9	12	122.3	4.1	21.8	-8	50.0
Harnischfeger Industries (10)	21.4	34	1847.6	30	1200.6	38	1208.6	24	104.2	1.8	60.0	87	35.7
Hein-Werner	2.3	15	2436.4	24	1918.7	27	112.1	24	120.8	2.0	5.9	84	38.7
Helix Technology	2.5	1	5593.7	10	5956.4	6	55.2	12	123.2	4.5	5.6	-3	45.1
Ingersoll-Rand	104.3	10	3444.1	14	3382.8	16	3021.4	14	99.8	3.5	230.8	43	45.2
Interlake	8.4	42	1077.1	40	735.0	44	892.2	8	114.4	0.9	72.6	-43	11.6
Ionics	2.1	11	2667.5	22	3104.6	18	88.2	18	110.3	2.4	3.9	42	54.7
JLG Industries (7)	2.9	45	2993.8	18	2816.2	19	81.5	36	83.9	3.6	9.0	79	32.2
Joy Technologies (2)	3.1	NA	726.7	46	619.0	47	472.9	26	110.0	0.7	-51.6	NM	NEG
Kulicke & Soffa Industries (9)	9.0	-1	8029.5	6	9576.4	5	83.5	25	74.8	10.7	4.4	NM	204.8
Lam Research (6)	15.7	23	28224.0	1	22285.9	1	75.0	111	134.3	21.0	3.9	NM	409.1
Lincoln Food Service Products	1.0	-5	2734.1	20	2435.2	22	46.6	0	129.1	2.1	3.4	-26	29.2
Materials Research (10)	8.1	-2	11871.5	4	10921.8	4	116.7	19	170.3	7.0	6.1	NM	133.1
Nordson (10)	13.8	29	6702.7	7	4854.4	10	245.0	19	119.4	5.6	48.6	22	28.3
Oilgear	1.6	18	1805.7	33	1462.1	34	61.3	8	67.6	2.7	2.0	32	81.0
Publishers Equipment	0.8	65	1822.9	32	1720.3	31	45.6	23	102.2	1.8	2.6	32	31.1
Reece	1.5	11	1980.0	29	2242.5	23	59.6	5	79.4	2.5	3.0	26	49.0
Rexworks	0.8	-3	1603.0	35	1319.6	35	58.5	12	124.2	1.3	-0.5	NM	NEG
Shopsmith (3)	0.4	-15	1040.2	42	1114.7	40	38.7	-1	103.9	1.0	0.4	NM	95.8
Silicon Valley Group (9)	7.0	21	18340.3	3	15512.7	3	49.0	25	128.2	14.3	6.6	25	105.7
Stevens Graphics	2.0	-8	2298.8	25	2568.2	21	91.8	45	106.7	2.2	8.0	53	24.7
Terex	4.7	61	1845.1	31	659.1	45	343.7	72	135.1	1.4	14.3	28	32.8
Timken	36.1	13	1998.5	28	1704.7	32	1554.1	26	86.1	2.3	111.9	390	32.2
Twin Disc (6)	8.7	17	5475.1	12	5055.3	9	162.4	25	102.2	5.4	13.6	179	64.0
Tyco Laboratories (5)	5.8	8	481.7	47	642.9	46	1574.6	48	131.2	0.4	105.3	37	5.5
VeloBind	0.4	-61	1231.0	38	1920.6	26	37.0	11	117.0	1.1	0.4	-26	94.4
Weigh-Tronix (3)	2.2	305	3020.5	17	2233.1	24	61.3	272	83.8	3.6	7.6	193	29.0

TEXTILES

GROUP COMPOSITE	42.1	-28	593.2		1067.6		6376.2	-2	89.8	0.7	44.6	19	94.5
Albany International	12.7	14	2243.3	2	2101.0	2	461.2	15	81.5	2.8	55.1	17	23.1
Burlington Holdings (9)	9.0	-68	321.4	10	543.3	8	2452.1	-12	87.6	0.4	-47.1	NM	NEG
Concord Fabrics (8)	2.0	11	2877.7	1	2739.7	1	139.1	1	200.1	1.4	-6.6	NM	NEG
Crown Crafts (3)	1.0	51	935.5	7	754.9	7	72.2	34	67.4	1.4	9.2	75	10.9

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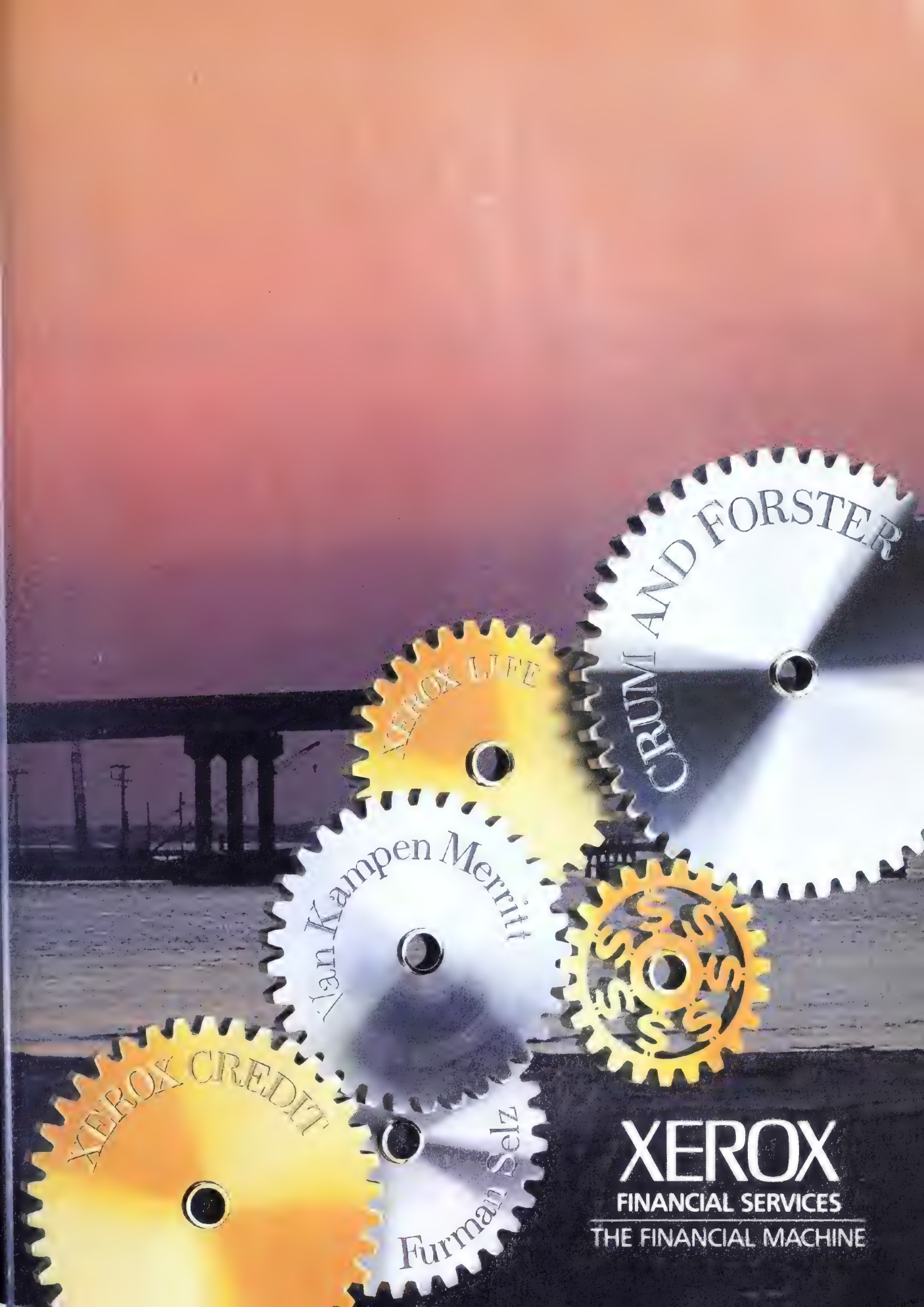
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R&D SCOREBOARD

R&D EXPENSES

SALES

PROFITS

	R&D EXPENSES						SALES						PROFITS			
	1988 \$ MIL.	CHANGE FROM 1987 %	PER EMPLOYEE				1988 \$ MIL.	CHANGE FROM 1987 %	PER EMPLOYEE \$ THOUS.	R&D AS % OF SALES	1988 \$ MIL.	CHANGE FROM 1987 %	R&D AS % OF PROFIT			
			1988 \$	1988 RANK	AVG. 1984-88 \$	AVG. 1984-88 RANK										
DWG (4)	1.6	4	92.5	11	123.1	11	1097.2	2	64.4	0.1	18.0	327	8.8			
Fab Industries (11)	2.6	5	1451.1	3	1442.2	3	147.6	7	82.0	1.8	13.8	-15	19.0			
Guilford Mills (6)	5.1	24	1284.6	4	1110.5	6	578.3	7	145.7	0.9	41.5	-5	12.3			
Horizon Industries (9)	2.2	-15	1038.1	6	1372.7	4	274.0	7	127.5	0.8	8.4	26	26.6			
Quaker Fabric (2)	1.5	14	1249.8	5	1347.9	5	105.6	-1	85.9	1.5	2.1	-10	72.8			
Salem Carpet Mills	1.5	2	525.5	8	525.1	9	402.6	12	138.8	0.4	12.9	36	11.8			
United Merchants & Mfrs. (6)	2.9	-6	439.5	9	302.5	10	646.3	0	99.4	0.4	-62.6	NM	NEG			

METALS & MINING

14

INDUSTRY COMPOSITE	258.4	-2	1935.2	5713.4	21869.2	24	163.8	1.2	2828.1	169	9.1
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ALUMINUM

GROUP COMPOSITE	199.4	-3	2248.0		2056.2		15362.4	27	173.2	1.3	2293.8	191	8.7
Aluminum Co. of America	167.4	-4	2837.3	1	2969.2	1	9795.3	26	166.0	1.7	1535.1	213	10.2
Reynolds Metals	32.0	-1	1077.4	2	1143.1	2	5567.1	30	187.4	0.6	658.7	148	4.9

STEEL

GROUP COMPOSITE	45.4	1	1433.0		1759.0		5287.2	16	166.9	0.9	378.7	NM	12.0
Allegheny Ludlum	7.7	-5	1376.4	3	1443.2	3	1207.5	39	215.6	0.6	174.7	NA	4.4
Armco	22.7	3	1164.1	4	960.8	4	3227.3	10	165.5	0.7	153.7	212	14.8
Carpenter Technology (6)	10.0	1	2570.0	1	2808.3	1	555.5	16	142.8	1.8	41.2	348	24.3
National-Standard (9)	5.0	3	1856.8	2	1634.3	2	296.8	11	110.7	1.7	9.2	NM	54.0

OTHER METALS

GROUP COMPOSITE	13.6	15	1033.8		1279.7		1219.7	17	92.8	1.1	155.5	13	8.7
Brush Wellman	6.5	0	2498.5	2	2468.0	2	345.8	12	132.9	1.9	51.9	13	12.5
Hecla Mining	2.7	108	3663.5	1	3663.5	1	102.3	17	138.8	2.6	13.5	6	20.0
Intermet	1.3	0	308.6	4	402.9	4	357.1	12	84.8	0.4	31.2	-21	4.2
Precision Castparts (3)	3.1	16	551.7	3	491.4	3	414.4	27	74.1	0.7	59.0	50	5.2

NONBANK FINANCIAL

15

INDUSTRY COMPOSITE	92.9	27	2620.5	5724.8			11626.4	17	328.1	0.8	1569.5	68	5.9
DST Systems	14.1	72	10444.4	2	5155.6	3	138.4	1	102.5	10.2	19.0	-39	74.1
Fiserv	10.0	64	5000.0	4	4375.4	5	125.0	46	62.5	8.0	15.1	22	66.1
ISI Systems (6)	1.8	9	4697.9	5	4723.9	4	37.6	19	100.5	4.7	9.5	36	18.5
Loews	11.1	4	453.0	8	436.4	8	10396.9	17	423.5	0.1	1322.2	88	0.8
Policy Management Systems	30.5	22	10138.2	3	9917.7	2	216.9	21	72.1	14.1	31.1	15	98.2
SEI	13.6	7	12919.5	1	14116.3	1	131.8	9	124.9	10.3	20.2	32	67.7
Telecredit (4)	4.7	4	3948.1	6	2856.9	7	139.4	15	116.7	3.4	-1.4	NM	NEG
Telerate	7.0	55	3681.1	7	3076.0	6	440.4	31	231.8	1.6	153.7	11	4.6

OFFICE EQUIPMENT & COMPUTERS

16

INDUSTRY COMPOSITE	13210.7	18	9334.5	79334.0	175025.8	14	123.7	7.5	19774.7	8	66.8
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BUSINESS MACHINES, SERVICES & SUPPLIES

GROUP COMPOSITE	234.6	13	2290.4	4394.5	10656.8	10	104.1	2.2	785.2	3	29.9		
Barry Wright	6.3	-28	3030.3	8	2687.7	8	201.7	-2	97.0	3.1	4.0	-74	158.0
Bell & Howell	24.1	17	3584.6	7	2444.2	10	588.7	1	87.4	4.1	-54.6	NM	NEG
Dennison Mfg.	15.8	23	2082.2	14	1861.5	15	721.8	2	95.0	2.2	56.9	-2	27.8
Diebold	11.9	15	2605.9	12	2480.9	9	450.6	3	98.8	2.6	43.9	-20	27.1
Esselte Business Systems	7.1	54	545.4	20	367.1	20	1401.2	13	108.0	0.5	108.4	2	6.5
Fibronics International	3.8	-16	8703.0	4	7165.2	5	40.5	11	94.0	9.3	1.3	NM	299.8
FileNet	7.9	13	14769.2	2	17010.8	2	63.2	21	118.6	12.5	1.5	-81	521.7
Franklin Computer (3)	1.7	57	12171.4	3	14255.3	3	44.2	85	315.8	3.9	2.9	NM	58.8
General Binding	2.4	35	764.5	18	608.0	18	250.6	18	79.3	1.0	24.5	46	9.9
Gradco Systems (3)	5.3	45	15111.4	1	19038.8	1	91.0	65	259.9	5.8	5.2	125	102.3
Hauserman (6)	4.8	29	2981.9	9	2078.5	12	146.5	13	91.6	3.3	-9.5	NM	NEG
HON Industries	3.8	-17	701.5	19	601.2	19	532.5	3	98.2	0.7	41.5	0	9.2
Miller (Herman) (5)	16.0	0	2970.1	10	3307.1	7	713.6	24	132.5	2.2	69.6	10	23.0



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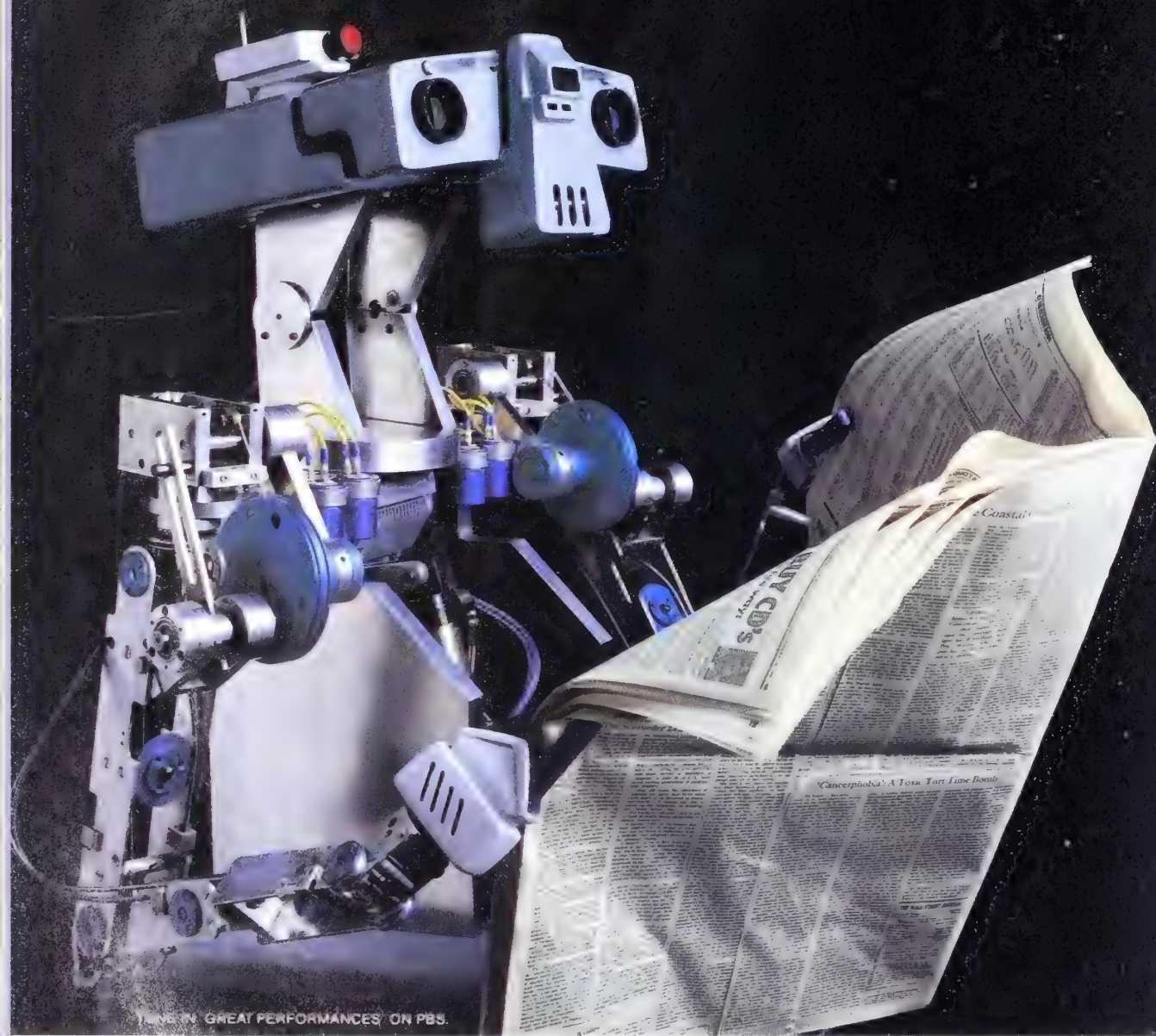
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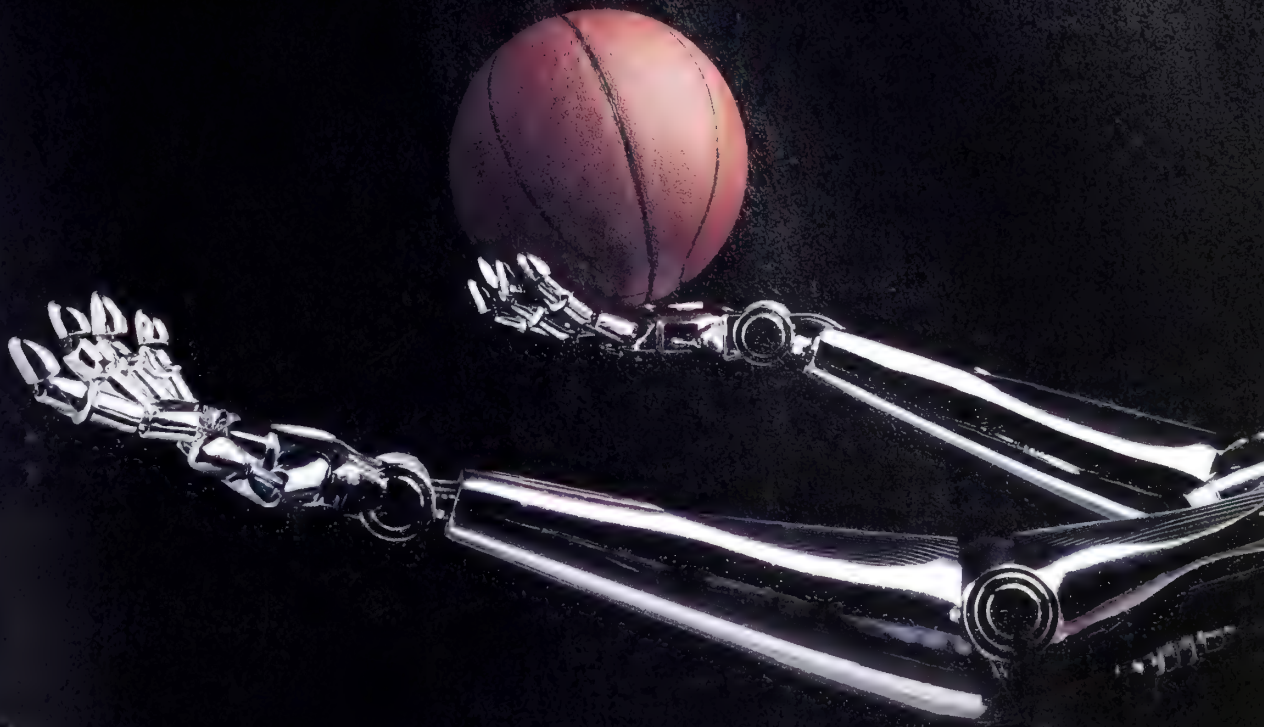
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	CHANGE FROM 1987		PER EMPLOYEE				CHANGE FROM 1987		R&D AS % OF SALES	CHANGE FROM 1987		R&D AS % OF PROFIT	
	1988 \$ MIL.	1987 %	1988 \$	1988 RANK	AVG. 1984-88 \$	AVG. 1984-88 RANK	1988 \$ MIL.	1987 %		PER EMPLOYEE \$ THOUS.	1988 \$ MIL.		1987 %
Nashua	7.6	5	1060.0	17	1216.6	16	989.4	14	137.2	0.8	52.9	18	14.4
PAR Technology	7.3	28	6572.9	6	6279.1	6	78.7	37	71.2	9.2	2.0	NM	358.3
Pitney-Bowes	79.5	22	2711.6	11	1981.4	14	2649.9	14	90.4	3.0	364.2	15	21.8
Reynolds & Reynolds (9)	12.8	4	2572.3	13	2304.8	11	600.1	7	120.6	2.1	27.5	-30	46.6
Savin	3.7	-20	1856.1	15	2045.9	13	360.6	1	182.1	1.0	-12.7	NM	NEG
Standard Register	8.6	4	1357.0	16	1153.6	17	675.2	1	106.2	1.3	61.3	-12	14.1
Syntrex (10)	4.2	-14	8601.6	5	7524.0	4	57.0	-4	115.9	7.4	-5.4	NM	NEG

D DATA PROCESSING

GROUP COMPOSITE	128.1	26	3267.4		4346.4		2581.4	15	68.2	5.0	348.7	14	36.7
Acxiom (3)	2.6	74	2106.5	9	3425.0	5	48.6	47	39.2	5.4	4.8	56	54.6
Automatic Data Processing (6)	66.3	28	2883.7	7	2385.0	8	1549.2	12	67.4	4.3	255.0	15	26.0
Computer Language Research	20.1	13	12021.5	1	9044.0	1	117.4	15	70.2	17.1	-2.8	NM	NEG
CyCare Systems	3.2	23	2246.4	8	3183.8	6	82.8	23	57.3	3.9	0.9	-75	342.0
Dyatron	6.4	51	NA	NR	NA	NR	42.8	17	NA	14.9	5.6	36	113.6
Epsilon Data Management (5)	2.0	33	3420.1	5	2117.2	9	49.8	5	84.7	4.0	1.5	331	132.1
GTech (2)	5.7	1	4133.4	3	7570.6	2	139.6	11	101.8	4.1	18.7	-2	30.3
MPSI Systems (9)	7.0	74	9259.0	2	7009.7	3	36.7	44	48.7	19.0	-1.2	NM	NEG
National Data (5)	1.4	15	427.9	10	529.8	10	177.1	12	53.7	0.8	25.7	6	5.5
SunGard Data Systems	2.4	58	3002.5	6	4988.2	4	122.0	34	152.4	2.0	18.9	25	12.7
Systematics (5)	9.1	17	3625.6	4	3154.4	7	179.5	27	71.8	5.1	24.9	27	36.4
Systems & Computer Tech. (9)	1.9	-18	NA	NR	NA	NR	36.0	-11	NA	5.3	-3.3	NM	NEG

C COMPUTERS

GROUP COMPOSITE	9962.3	16	10679.7		13025.4		121958.0	12	130.7	8.2	15767.3	8	63.2
Alliant Computer Systems	13.7	3	36638.1	1	28688.9	3	64.8	-12	173.8	21.1	-39.4	NM	NEG
Alpha Microsystems (2)	3.9	-24	12600.0	20	12415.9	20	46.4	-1	149.7	8.4	2.1	NM	183.0
Altos Computer Systems (6)	15.4	12	17643.3	15	14608.7	16	175.9	14	201.7	8.7	35.1	124	43.9
Amdahl	221.0	24	27136.0	3	21051.1	7	1801.8	20	221.2	12.3	361.0	35	61.2
Apollo Computer	76.9	26	17307.0	16	13250.7	19	653.5	18	147.0	11.8	-1.0	NM	NEG
Apple Computer (9)	272.5	42	25232.6	4	20926.4	8	4071.4	53	377.0	6.7	656.2	60	41.5
ARIX (6)	7.5	55	23779.2	6	23779.2	4	60.3	45	190.2	12.5	5.9	3	127.6
AST Research (6)	15.7	38	6999.6	35	8237.1	30	412.7	100	184.1	3.8	20.9	-4	75.0
Atari	21.4	18	12002.2	21	8922.9	24	452.2	25	254.0	4.7	58.5	-30	36.5
Compaq Computer	74.9	59	10849.1	24	10325.9	21	2065.6	69	299.4	3.6	374.5	64	20.0
Concurrent Computer (6)	9.7	14	14472.4	19	13371.0	18	76.5	2	114.0	12.7	-6.9	NM	NEG
Control Data	335.7	4	10020.9	27	8436.7	20	3628.3	8	108.3	9.3	18.3	-69	1834
Convex Computer	13.6	40	19420.0	12	17847.2	10	105.6	52	150.9	12.9	9.0	0	151.7
Cray Research	117.8	8	22485.2	9	20434.5	9	756.3	10	144.4	15.6	233.8	1	50.4
Data General (9)	165.2	4	10711.5	26	8714.3	28	1364.7	7	88.5	12.1	-6.7	NM	NEG
Dell Computer (1)	5.5	248	8775.1	32	8775.1	27	159.0	129	253.6	3.5	15.1	291	36.4
Digital Equipment (6)	1306.5	29	10753.4	25	8784.4	26	11475.4	22	94.4	11.4	1740.8	3	75.1
Electronic Associates	0.8	-34	1849.5	39	3203.7	38	42.7	31	103.7	1.8	0.3	-34	276.1
Everex Systems (7)	15.6	86	9851.7	29	8914.4	25	266.7	69	168.3	5.9	13.4	-1	116.6
Floating Point Systems (10)	14.0	-12	24262.5	5	15858.4	14	70.8	-16	122.3	19.8	-33.3	NM	NEG
Hewlett-Packard (10)	1019.0	13	11712.6	22	9624.7	22	9831.0	22	113.0	10.4	1142.0	19	89.2
International Business Machines	4419.0	11	11415.3	23	9606.1	23	59681.0	8	154.2	7.4	9033.0	5	48.9
Kaypro (8)	2.4	-11	8776.2	31	6010.3	32	72.2	-32	260.8	3.4	-11.5	NM	NEG
MAI Basic Four (9)	11.1	-14	2471.9	38	3892.4	37	420.8	31	94.1	2.6	39.6	6	27.5
NBI (6)	14.4	48	9928.3	28	5115.2	36	137.7	-19	94.9	10.5	-27.8	NM	NEG
NCR	416.4	17	6940.5	36	5469.9	34	5989.9	6	99.8	7.0	808.6	3	51.5
Qantel (4)	8.1	-10	19065.9	8	16425.5	6	58.2	-12	136.9	13.9	8.7	-7	92.7
Pyramid Technology (9)	12.1	21	22849.3	13	22333.3	13	79.8	47	150.3	15.2	10.4	376	117.0
Sequent Computer Systems	9.1	72	14818.2	18	17777.4	11	76.1	98	123.5	12.0	7.2	70	127.3
Silicon Graphics (6)	24.2	66	22908.1	7	22903.9	5	152.6	77	144.6	15.8	17.1	51	141.6
Star Technologies (3)	4.7	-7	19598.3	11	29221.7	2	35.7	-19	149.3	13.1	2.3	-15	205.1
Stratus Computer	30.6	62	17859.7	14	14138.7	17	265.3	44	155.1	11.5	45.8	45	66.7
Tandem Computers (9)	169.4	55	19637.7	10	14669.2	15	1314.7	26	152.5	12.9	145.4	-21	116.7
Tandon	13.7	33	9262.8	30	5141.4	35	309.3	7	208.5	4.4	-17.5	NM	NEG
Teradata (6)	11.1	54	16487.4	17	17010.7	12	89.5	91	133.0	12.4	13.9	283	79.7
Unisys	713.0	19	7666.7	34	5504.8	33	9902.0	2	106.5	7.2	958.6	1	74.4
Wang Laboratories (6)	268.2	20	8510.0	33	6545.6	31	3068.4	8	97.4	8.7	118.7	NM	225.9
Zenith Electronics	100.6	-3	2794.4	37	2869.8	39	2685.7	14	74.6	3.7	15.1	NM	666.7
Zycad	8.0	9	34752.2	2	31962.4	1	37.9	15	164.8	21.1	0.0	-99	206.6

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SALES

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GROUP COMPOSITE	53.3	32	7109.2	9339.3	784.9	34	104.7	6.8	20.5	15	259.8
Cadnetix (6)	8.0	32	15077.1	1 14497.2	1	62.4	34	117.4	12.8	7.3	-26 110.2
ISC Systems (6)	13.5	-5	7384.7	3 9040.9	2	170.8	1	93.6	7.9	13.0	4 103.6
Televideo Systems (10)	7.7	26	8011.5	2 8119.3	3	95.1	-4	99.6	8.0	-39.8	NM NEG
Wyse Technology (3)	24.2	71	5771.0	4 6079.4	4	456.6	68	109.0	5.3	40.1	34 60.3

DISK & TAPE DRIVES

GROUP COMPOSITE	296.2	24	3989.0	6878.9	4952.2	31	66.7	6.0	244.3	NM	121.3
Applied Magnetics (9)	22.7	16	2400.6	17 3399.3	14	293.0	38	31.0	7.7	27.3	50 83.1
Archive (9)	7.6	33	5478.5	11 6117.5	10	122.7	38	88.1	6.2	13.6	93 56.1
Cipher Data Products (6)	17.4	-13	8480.5	7 8124.0	5	185.4	4	90.3	9.4	12.7	NM 137.1
CMS Enhancements (6)	1.3	168	3717.6	13 3314.3	15	151.5	51	436.6	0.9	3.3	2 39.2
Computer & Communications Tech.	3.9	-18	1569.2	20 2036.6	20	107.4	10	42.9	3.7	-15.7	NM NEG
Conner Peripherals	8.6	144	2869.0	15 2805.8	18	256.6	127	85.5	3.4	27.3	59 31.5
Domain Technology (6)	4.0	NA	4529.4	12 4529.4	12	61.4	NA	69.5	6.5	4.0	NA 99.5
Hutchinson Technologies (9)	4.6	-25	1608.1	19 2733.5	19	113.7	46	40.2	4.0	6.5	-15 70.4
Iomega	10.0	24	9042.4	5 6762.4	8	111.5	25	100.6	9.0	8.9	NM 113.0
Komag	3.5	79	2811.1	16 3255.8	16	83.6	77	67.2	4.2	11.8	29 29.6
Massstor Systems	2.7	1	11890.8	2 14865.3	1	38.1	-1	166.5	7.1	-7.1	NM NEG
Maxtor (3)	24.0	90	7240.6	9 5914.2	11	271.2	49	82.0	8.8	18.1	-44 132.2
Micropolis	28.4	30	8876.2	6 6712.0	9	353.1	22	110.4	8.0	-20.1	NM NEG
National Micronetics (6)	2.3	26	3325.7	14 4080.2	13	38.8	10	55.4	6.0	0.9	NM 259.0
Priam (6)	8.7	-18	9149.0	4 13114.7	3	142.0	10	150.1	6.1	0.8	NM 1104
Quantum (3)	12.1	5	23753.9	1 14177.0	2	188.5	56	371.1	6.4	-4.2	NM NEG
Rexon (9)	7.4	49	6307.6	10 7468.8	7	155.5	53	133.3	4.7	11.5	9 64.2
Seagate Technology (6)	50.1	49	1669.5	18 2844.5	17	1266.0	32	42.2	4.0	99.0	-47 50.6
Storage Technology	67.5	12	7940.5	8 7630.7	6	874.0	17	102.8	7.7	41.2	68 163.6
System Industries (7)	9.6	42	10567.2	3 9471.9	4	138.3	16	152.3	6.9	4.6	-29 207.7

PERIPHERALS & OTHER DEVICES

GROUP COMPOSITE	1269.0	14	7352.1	9377.8	22529.7	12	130.7	5.6	1368.2	4	92.7
Adage (3)	6.0	-21	18883.3	3 13431.0	9	38.1	-10	120.2	15.7	-28.2	NM NEG
Alloy Computer Products	3.3	-8	11308.0	15 9805.9	17	41.1	-8	142.2	8.0	-4.1	NM NEG
AM International (7)	12.8	-2	1697.8	35 1287.7	35	820.7	10	108.9	1.6	9.7	-63 131.8
BancTec (3)	6.7	1	7047.2	25 8032.4	21	93.4	9	97.9	7.2	7.6	44 88.8
Cherry (2)	6.2	5	2183.2	32 1574.8	34	194.6	21	68.7	3.2	16.1	179 38.5
Data Switch	9.4	-9	10731.8	18 12437.0	11	113.8	17	129.3	8.3	4.7	54 201.8
Data Translation (11)	3.7	30	13653.0	10 11467.9	13	38.7	25	144.3	9.5	4.4	-14 83.2
Dataproducts (3)	26.7	19	7508.7	22 6306.3	25	345.2	2	97.3	7.7	-11.6	NM NEG
Digital Communications Assocs. (6)	25.7	22	17921.8	4 16924.9	3	227.5	25	158.7	11.3	57.7	29 44.5
Distributed Logic (10)	3.2	25	8792.8	21 16050.9	5	51.2	224	141.5	6.2	-2.5	NM NEG
Dynatech (3)	34.4	22	11250.0	16 8230.2	20	367.8	17	120.2	9.4	36.4	-15 94.5
EMC	10.1	7	11145.1	17 10758.7	14	123.3	-3	135.5	8.2	-7.6	NM NEG
Emulex (6)	13.3	5	15435.7	7 12639.4	10	125.1	21	145.0	10.6	13.4	130 99.1
Genicom	10.6	41	2875.1	31 2014.2	32	291.4	-4	78.9	3.6	-1.0	NM NEG
Intergraph	89.2	32	12216.2	12 10598.8	15	800.2	25	109.6	11.1	138.8	20 64.3
Intermec (3)	5.4	10	7304.1	23 7443.1	22	85.2	30	115.1	6.3	7.5	18 72.3
Key Tronic (6)	7.7	13	3836.0	30 4269.7	30	136.0	26	68.0	5.6	-14.1	NM NEG
Lee Data (3)	9.0	67	9365.2	20 5353.3	29	101.5	-11	105.6	8.9	-9.0	NM NEG
Microcom (3)	4.4	36	15912.4	6 15082.9	6	35.1	40	128.0	12.4	6.0	73 73.3
Miltape Group	5.0	-15	6589.5	27 7071.9	23	68.3	11	89.9	7.3	2.2	NM 223.0
National Computer Systems (1)	5.0	-14	1797.9	34 2851.7	31	241.9	16	86.4	2.1	24.0	-47 21.0
Network Systems	16.0	20	15169.8	9 13975.3	8	131.5	9	124.7	12.2	18.2	-37 88.1
Printronix (3)	9.8	-29	5566.5	28 5864.1	27	125.1	1	71.1	7.8	1.0	NM 971.0
QMS (9)	5.8	-11	5551.4	29 6118.5	26	186.7	29	177.8	3.1	-10.2	NM NEG
Qume (2)	5.1	34	15378.8	8 16595.5	4	106.6	60	323.2	4.8	2.7	-33 186.4
Scan-Optics	6.7	-8	11457.2	14 9058.0	18	47.6	12	81.5	14.1	-1.0	NM NEG
Scientific Micro Systems	4.5	15	NA	NR	NR	55.4	-22	NA	8.0	-20.3	NM NEG
Sigma Designs (1)	2.2	79	13645.6	11 10238.3	16	73.0	59	462.2	3.0	13.6	39 15.9
Summagraphics (5)	2.3	10	11957.9	13 11935.6	12	35.8	26	188.7	6.3	4.9	153 46.4
Symbol Technologies	4.5	96	7152.5	24 5632.8	28	89.0	96	140.0	5.1	30.7	193 14.8
Symbolics (6)	16.2	-13	33100.0	2 22546.5	2	81.3	-22	166.0	19.9	-45.2	NM NEG

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is the real mother of invention. And reaffirms that



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of creativity that

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R&D SCOREBOARD

R&D EXPENSES

SALES

PROFITS

	PER EMPLOYEE					CHANGE FROM 1987 %	PER EMPLOYEE \$ THOUS.	R&D AS % OF SALES	CHANGE FROM 1987 %	R&D AS % OF PROFITS			
	1988 \$ MIL.	1988 RANK	AVG. 1984-88 \$	1988 RANK	1988 \$ MIL.								
3Com (5)	23.4	70	17372.4	5	14472.0	7	251.9	62	186.9	9.3	38.9	32	60.2
TransTechnology (3)	5.5	38	2099.2	33	1664.7	33	207.9	-1	79.4	2.6	18.9	-6	29.0
Weitek	7.6	31	45716.9	1	45716.9	1	35.2	65	212.0	21.6	5.5	358	138.0
Western Digital (6)	67.7	71	10288.1	19	8312.7	19	768.3	60	116.7	8.8	55.1	0	123.0
Xerox	794.0	10	7011.3	26	6418.9	24	15994.0	9	141.2	5.0	1005.0	1	79.0

6 SOFTWARE & SERVICES

GROUP COMPOSITE	652.6	33	18428.8		16422.0		4903.6	38	138.5	13.3		762.5	29	85.6
Adobe Systems (11)	7.3	76	25068.7	8	27440.3	4	83.5	112	286.9	8.7		35.8	112	20.4
Aldus	6.0	224	12353.8	24	6958.0	29	79.1	100	161.7	7.6		21.3	70	28.3
American Software (4)	2.1	-40	5304.5	29	12252.6	24	54.2	16	134.1	4.0		16.7	8	12.9
Ashton-Tate (1)	52.9	49	36207.5	2	20007.5	11	307.3	15	210.5	17.2		73.5	-5	72.0
ASK Computer Systems (6)	11.9	43	17236.6	17	15313.6	18	142.4	45	206.7	8.3		15.4	23	77.0
Autodesk (1)	7.2	114	17405.8	16	11255.0	25	79.3	51	191.4	9.1		35.0	53	20.6
BMC Software (3)	11.2	28	42622.1	1	42622.1	1	41.6	48	158.6	26.9		11.5	78	97.5
Boole & Babbage (9)	4.9	17	14031.4	20	13511.7	22	56.7	36	161.9	8.7		7.7	216	64.0
Borland International (3)	8.7	57	14003.2	21	14003.2	21	81.6	114	132.0	10.6		3.8	29	225.8
Cadence Design Systems	11.6	45	26882.2	7	27033.4	5	67.1	66	155.0	17.3		19.1	128	61.1
Computer Associates Intl. (3)	81.5	27	18229.8	14	14736.4	19	709.1	57	158.7	11.5		170.1	79	47.9
Comshare (6)	3.5	13	4430.8	30	5214.4	30	78.9	12	101.1	4.4		3.4	-9	102.2
Continuum (3)	17.5	-3	27100.8	6	26268.7	7	60.4	4	93.6	29.0		4.0	-34	432.7
Cullinet Software (4)	52.4	5	21066.7	13	18195.3	14	216.7	24	87.1	24.2		-65.5	NM	NEG
Evans & Sutherland Computer	37.1	21	30263.7	5	19902.4	12	129.6	-4	105.8	28.6		0.4	-98	917.7
Hogan Systems (3)	11.7	23	24682.1	11	28606.6	3	43.1	-11	90.7	27.2		2.4	-75	494.9
Informix	7.8	54	7375.7	28	9454.2	28	103.5	51	97.5	7.6		0.6	-96	1351
Intermetrics (2)	0.9	-21	1436.4	31	1759.3	32	47.4	-1	78.3	1.8		2.5	261	34.9
Keane	0.9	-30	898.9	32	1910.3	31	60.0	35	63.2	1.4		4.8	194	17.7
Logicon (3)	2.0	23	789.6	33	469.1	33	217.6	7	87.0	0.9		14.7	21	13.4
Lotus Development	83.8	44	33534.8	3	24798.4	8	468.5	18	187.4	17.9		79.9	-22	105.0
Management Science America	58.9	12	24874.2	10	17541.9	16	250.0	-3	105.5	23.6		-33.6	NM	NEG
Mediagenic (3)	3.6	-18	22319.0	12	26999.9	6	45.3	70	277.7	8.0		3.8	NM	94.7
MicroPro International (8)	5.1	-13	13231.8	22	22153.2	9	42.5	3	110.6	12.0		-3.5	NM	NEG
Microsoft (6)	69.8	83	24982.5	9	20222.8	10	590.8	71	211.5	11.8		183.7	51	38.0
Morino (6)	3.2	-7	11017.3	26	16184.5	17	44.7	35	154.8	7.1		13.2	25	24.1
On-Line Software International (5)	13.0	19	16591.1	19	19200.0	13	81.9	28	104.3	15.9		0.2	-98	6480
Oracle Systems (5)	25.7	158	11648.4	25	10515.2	27	282.1	115	127.8	9.1		65.0	133	39.6
Pansophic Systems (4)	13.9	18	9672.2	27	11128.1	26	165.3	44	114.8	8.4		22.9	-9	60.7
Relational Technology (6)	14.7	41	17950.0	15	17950.0	15	87.4	88	106.6	16.8		12.4	213	119.0
Software Publishing (9)	11.8	53	30389.2	4	31253.0	2	73.1	90	188.5	16.1		21.3	136	55.3
System Software Associates (10)	3.6	94	12652.6	23	13375.0	23	61.5	99	215.9	5.9		9.8	64	37.0
Systems Center	6.5	0	16952.7	18	14189.9	20	51.7	44	135.7	12.5		10.3	88	63.0

H SYSTEMS DESIGN

GROUP COMPOSITE	614.6	35	11719.2	10276.1			6659.4	36	125.5	9.2	477.9	7	128.6
Auto-trol Technology (9)	8.2	30	11553.8	12	13219.9	10	78.2	NA	110.8	10.4	2.3	NA	356.0
Barrister Information Systems (3)	4.4	9	7399.7	21	7580.3	22	37.7	13	64.1	11.5	0.1	-95	5960
Bolt Beranek & Newman (6)	14.7	3	5011.6	27	3765.6	27	305.2	31	104.4	4.8	27.5	603	53.3
Cerner	3.7	NA	13436.4	9	12768.4	11	40.9	22	148.8	9.0	5.2	-25	71.7
CPT (6)	4.9	-45	6242.9	23	8128.3	18	93.3	-8	119.9	5.2	-20.5	NM	NEG
Daisy Systems (9)	24.8	3	28838.4	2	26244.8	2	117.4	16	136.5	21.1	6.3	NM	396.8
Datapoint (7)	19.7	-27	7323.8	22	7697.9	20	330.8	6	122.8	6.0	12.7	NM	155.9
Dynamics Research	1.0	22	824.1	30	960.7	30	92.9	2	77.1	1.1	6.6	3	15.0
Excelan	8.6	37	18314.2	6	19592.1	3	65.9	69	139.8	13.1	8.4	35	102.6
General Automation (6)	3.3	63	7484.1	18	5566.4	26	50.9	19	115.7	6.5	-10.8	NM	NEG
Gerber Scientific (4)	17.1	3	NA	NR	NA	NR	264.0	18	NA	6.5	46.0	34	37.2
HBO	10.1	7	5597.2	25	6935.3	23	187.4	7	103.5	5.4	19.0	-10	53.3
Interleaf (3)	7.1	27	12672.0	10	14734.5	9	60.2	57	108.0	11.7	7.8	NM	90.3
Iverson Technology	1.9	91	7462.7	19	8924.5	16	42.9	-3	168.3	4.4	2.2	-67	87.6
Mentor Graphics	33.8	40	19785.8	4	18314.4	4	300.8	36	176.0	11.2	50.6	60	66.8
Network Equipment Techs. (3)	9.7	80	11545.5	13	11135.0	13	90.6	91	108.3	10.7	18.3	225	52.8
Novell (10)	16.0	61	10103.5	15	8098.8	19	281.2	54	177.5	5.7	47.5	33	33.7
Phoenix Technologies (9)	10.2	106	33705.3	1	33705.3	1	44.8	134	148.2	22.7	12.7	457	79.9
Prime Computer	174.3	59	14070.2	8	11194.5	12	1594.6	66	128.7	10.9	17.8	-79	980.4
Recognition Equipment (10)	8.5	-27	3140.0	28	3467.6	28	260.8	-1	96.3	3.3	-9.0	NM	NEG



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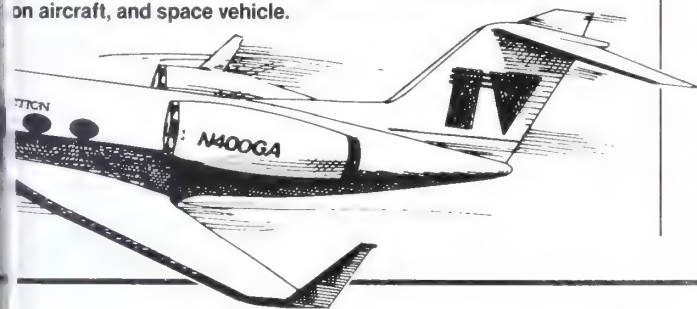
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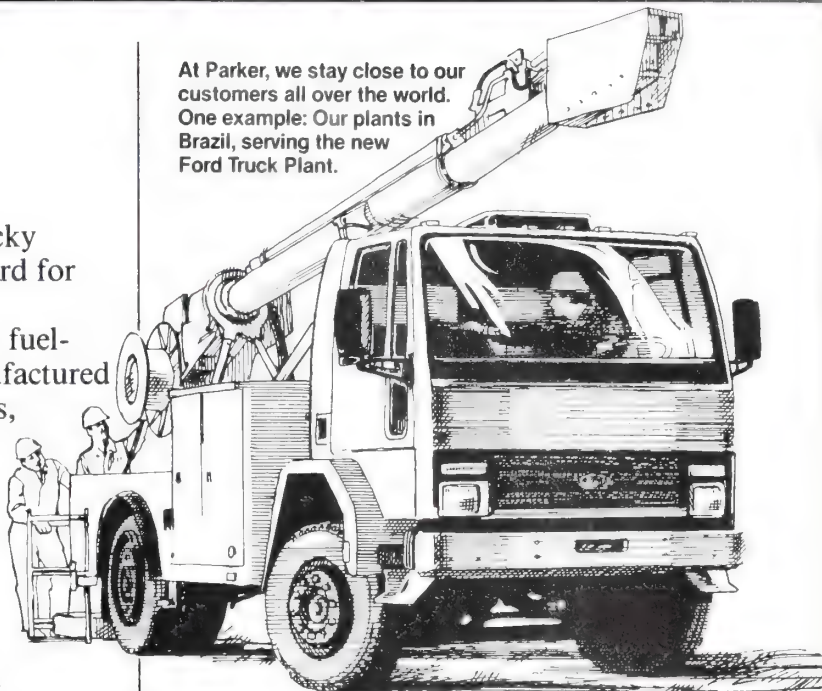
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R&D SCOREBOARD

R&D EXPENSES

SALES

PROFITS

	CHANGE FROM 1987		PER EMPLOYEE				CHANGE FROM 1987		R&D AS % OF SALES	CHANGE FROM 1987		R&D AS % OF PROFITS	
	1988 \$ MIL.	%	1988 \$	1988 RANK	AVG. 1984-88 \$	AVG. 1984-88 RANK	1988 \$ MIL.	%		1988 \$ MIL.	%		
Shared Medical Systems	37.5	-1	9726.9	16	8644.9	17	376.8	-3	97.6	10.0	45.0	-40	83.5
Structural Dynamics Research	8.0	36	11047.2	14	10150.5	15	75.2	23	104.3	10.6	9.2	43	86.3
Sun Microsystems (6)	139.9	101	19732.8	5	17153.6	5	1051.6	96	148.3	13.3	110.7	60	126.4
System Integrators (9)	6.2	-8	12394.0	11	10979.7	14	65.1	11	130.2	9.5	6.3	-7	98.9
Telxon (3)	7.6	19	7796.9	17	7661.2	21	123.9	23	127.7	6.1	22.8	-2	33.2
Titan	2.3	-27	2059.1	29	2821.4	29	104.9	-2	95.4	2.2	-14.2	NM	NEG
Triad Systems (9)	8.1	13	5913.6	24	6217.8	24	127.4	9	92.5	6.4	13.4	40	60.8
Ultimate (4)	5.5	22	7452.6	20	15081.8	8	209.2	22	283.4	2.6	21.3	-18	25.9
Valid Logic Systems	9.7	1	15152.0	7	16980.9	6	108.4	63	169.9	8.9	6.7	NM	144.9
Vitalink Communications (9)	4.5	85	20368.2	3	15739.1	7	37.4	102	170.0	12.0	11.2	207	40.0
Wicat Systems (3)	3.5	-39	5211.2	26	5789.6	25	39.2	40	57.9	9.0	-4.9	NM	NEG

PAPER & FOREST PRODUCTS

17

INDUSTRY COMPOSITE	421.7	12	1767.8		1441.9		40295.4	12	168.9	1.0	4645.7	36	9.1
Boise Cascade	9.5	39	478.2	9	356.3	9	4094.6	7	206.4	0.2	477.9	50	2.0
Consolidated Papers	5.0	8	1122.6	8	1051.6	8	896.8	21	201.3	0.6	236.7	44	2.1
James River Corp. of Virginia (4)	45.4	23	1164.1	7	1093.3	7	5098.0	14	130.7	0.9	377.5	6	12.0
Kimberly-Clark	110.9	0	2893.4	1	2811.0	1	5393.5	10	140.7	2.1	629.9	11	17.6
Mead	53.9	18	2566.7	2	1852.1	4	4463.9	6	212.6	1.2	582.4	77	9.3
Pentair	1.5	NA	172.4	10	264.7	10	823.3	4	94.6	0.2	68.3	101	2.2
Scott Paper	64.9	16	2403.7	3	2087.1	2	4726.4	15	175.1	1.4	642.6	82	10.1
Union Camp	44.1	11	2383.7	4	2072.9	3	2660.9	13	143.8	1.7	468.0	37	9.4
Westvaco (10)	29.1	6	1969.8	5	1693.2	5	2133.9	12	144.7	1.4	313.3	29	9.3
Weyerhaeuser	57.5	23	1223.1	6	1136.6	6	10004.1	13	213.0	0.6	849.0	19	6.8

SERVICE INDUSTRIES

18

INDUSTRY COMPOSITE	178.3	4	877.4	1421.5			14655.1	13	72.1	1.2	276.8	33	64.4
Andal (9)	1.1	-22	2348.9	5	2348.9	5	103.9	39	221.0	1.1	-0.9	NM	NEG
Aritech	3.6	43	3529.6	1	2939.5	4	152.3	29	148.0	2.4	5.3	-24	68.1
Borg-Warner	32.7	12	465.8	22	793.8	16	2144.6	NA	30.6	1.5	0.1	NA	2700
Butler Mfg.	2.3	10	616.1	19	986.0	12	645.6	5	173.0	0.4	24.7	208	9.3
Calgon Carbon	4.4	51	3426.8	2	3784.1	3	226.1	32	174.2	2.0	48.4	47	9.2
Combustion Engineering	55.9	11	1940.3	6	2236.6	7	3483.9	15	120.8	1.6	-239.2	NM	NEG
Dravo	1.7	42	692.2	16	290.6	24	273.6	7	111.4	0.6	16.0	1	10.6
Earth Technology (USA) (8)	0.6	-25	1648.6	7	5636.8	1	40.8	-6	116.5	1.4	1.9	6	30.0
EG&G	20.2	9	808.0	14	742.2	17	1406.3	11	56.3	1.4	97.4	15	20.7
Flow General (6)	2.4	-15	982.7	13	1134.9	11	244.0	17	100.2	1.0	6.9	388	34.5
Foster Wheeler	4.0	-35	504.7	21	706.6	18	1053.8	-14	133.0	0.4	43.2	428	9.3
Gilbert Associates	1.8	70	526.9	20	351.4	23	249.9	7	74.4	0.7	16.0	10	11.0
Information Resources	2.7	4	1057.6	12	1772.5	8	129.2	23	50.6	2.1	0.5	NM	600.0
Lynch	0.6	38	1139.4	11	1174.6	9	48.5	193	96.7	1.2	1.6	159	36.3
Market Facts	1.5	-14	1521.0	8	1153.9	10	37.8	1	39.7	3.8	1.5	51	95.7
MLX	2.6	NA	1178.3	10	940.2	14	435.4	20	200.1	0.6	4.1	NM	62.7
National Patent Development	7.7	-43	2759.6	4	3895.5	2	251.3	10	89.7	3.1	-8.6	NM	NEG
Paxar	0.7	145	802.2	15	962.5	13	56.2	32	62.1	1.3	2.0	-44	35.7
Premier Industrial (5)	2.9	12	674.4	17	687.2	19	528.2	15	122.8	0.6	103.5	19	2.8
RPC Energy Services	1.3	26	1235.5	9	806.2	15	107.9	67	99.6	1.2	5.5	NM	24.2
Science Applications (1)	6.7	34	652.6	18	506.8	20	863.2	25	83.8	0.8	42.3	9	15.9
Thermo Electron	13.8	48	2994.8	3	2305.3	6	500.6	31	108.6	2.8	29.5	20	46.8
Volt Information Sciences (10)	4.8	-20	294.6	23	483.4	21	467.3	1	28.8	1.0	0.3	-97	1601
Wheelabrator Technologies	2.2	-66	228.1	24	474.2	22	1204.7	20	124.2	0.2	74.7	62	3.0

TELECOMMUNICATIONS

19

INDUSTRY COMPOSITE	3127.5	5	6281.0	7812.9	55276.5	5	111.0	5.7	-1119.5	NM	NEG		
ADC Telecommunications (10)	17.4	12	10357.7	9	7660.0	11	179.9	8	107.1	9.7	24.9	-2	69.8
American Telephone & Telegraph	2572.0	5	8455.0	14	7354.5	13	35210.0	4	115.7	7.3	-3382.0	NM	NEG
BRintec	4.4	-1	1139.0	24	1155.0	24	337.3	15	86.5	1.3	9.2	9	48.5
Comdial	2.4	-13	1893.2	20	2412.3	21	88.6	2	69.6	2.7	-0.6	NM	NEG
Communications Satellite	13.9	-9	10796.1	8	10237.4	8	358.9	8	279.3	3.9	84.8	NM	16.4

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and a shattered life.*



November 17, 1986, the car in which Tara Meyer was riding was in an accident. Unfortunately, she wasn't wearing a seat belt. So like 150,000 other victims each year, her head hit and shattered the windshield.

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Over the years, each and every one of us has been paying a higher price for diesel fuel than we realize. Because diesel fuel, while costing less in terms of dollars and cents, pollutes more

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And while clothes and buildings can always be cleaned, the less visible effects that occur inside our bodies may be more serious

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Until now, the best alternative to diesel fuel was cleaner-burning methanol. But methanol required a drastic engine redesign, and many of the economic benefits of diesel fuel were lost

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What we're working on is called Avocet™, an additive, currently being tested, that allows methanol to be used in conventional diesel engines

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Avocet is just one of many products and technologies ICI is developing as part of our ongoing commitment to solving world problems

We're also looking for ways to fight world hunger through biotechnology research on plants. Our health care efforts are helping in the treatment of breast cancer and other serious diseases. And we're working on developing new, ozone-friendly fluorocarbons

Through continued research and innovation, ICI is developing products and technologies that help make a safer, better world. And that should help us all breathe just a little bit easier





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R&D SCOREBOARD

R&D EXPENSES

SALES

PROFITS

	CHANGE FROM 1987		PER EMPLOYEE				CHANGE FROM 1987		PER EMPLOYEE		R&D AS % OF SALES	CHANGE FROM 1987		R&D AS % OF PROFITS	
	1988 \$ MIL.	%	1988 \$	1988 RANK	AVG. 1984-88 \$	AVG. 1984-88 RANK	1988 \$ MIL.	%	\$ THOUS.			1988 \$ MIL.	%		
Davox	4.2	39	14375.4	4	13165.4	4	36.3	43	123.8	11.6		-3.4	NM	NEG	
DSC Communications	45.0	12	16265.3	3	18149.9	2	339.7	28	122.8	13.2		24.4	NM	184.7	
General DataComm Industries (9)	23.3	-8	9692.4	10	7522.1	12	196.2	-5	81.8	11.9		-18.4	NM	NEG	
Graphic Scanning (6)	2.8	-7	1865.2	22	1741.0	22	116.3	1	77.7	2.4		64.8	-23	4.3	
GTE	297.0	18	1867.9	21	1677.6	23	16459.8	7	103.5	1.8		1943.7	5	15.3	
Infotronics Systems	11.2	-4	12248.6	6	9689.7	9	94.7	14	103.8	11.8		4.2	NM	264.1	
Intellicall	0.7	3	1856.0	23	2641.2	20	37.9	88	101.1	1.8		4.2	102	16.7	
Inter-Tel	2.5	26	5199.6	18	5484.9	17	62.6	27	130.1	4.0		3.0	-17	83.5	
M/A-Com (9)	25.0	2	3882.6	19	3619.1	19	424.2	-3	65.8	5.9		30.6	NM	81.7	
Octel Communications (6)	5.6	118	11473.4	7	11473.4	6	48.0	150	98.4	11.7		8.8	481	63.8	
Penril (7)	3.9	-6	9323.0	12	6046.1	16	39.0	3	93.4	10.0		2.2	NM	174.5	
Plantronics (6)	10.2	12	7121.3	15	6063.3	15	121.0	9	84.9	8.4		17.3	12	58.6	
Porta Systems	3.7	47	6407.9	17	5409.2	18	58.0	15	99.8	6.4		5.1	NM	73.2	
Scientific-Atlanta (6)	30.0	41	8720.2	13	6755.7	14	508.6	3	147.6	5.9		47.9	-1	62.8	
Telco Systems (8)	5.4	-33	14230.2	5	11867.9	5	58.6	-4	155.1	9.2		-1.4	NM	NEG	
Telematics International	9.9	38	22718.9	1	21380.6	1	54.1	24	124.6	18.2		7.3	-29	134.6	
Tellabs	17.6	13	9688.5	11	8263.6	10	155.4	14	85.4	11.3		17.6	6	100.1	
TIE/communications	14.6	-32	6753.6	16	11270.1	7	255.3	2	118.2	5.7		-15.0	NM	NEG	
V Band (10)	4.8	55	18018.6	2	13166.6	3	36.2	-33	134.5	13.4		1.3	-97	383.2	

ALPHABETICAL LIST OF COMPANIES

The number following each company name identifies the Scoreboard category under which it is listed

A	Andersen Group 10b	Barry Wright 16a	Caterpillar 13c	Consolidated Papers 17	Dexter 3	Emulex 16f
A. L. Laboratories 10a	Andrew 7b	Base Ten Systems 7b	CBI Industries 9b	Continuum 16g	Diagnostic Products 10a	Engelhard 3
Abbott Laboratories 10b	Anthony Industries 12	Bausch & Lomb 10b	Centocor 10a	Control Data 16c	Diagnostic/Retrieval 7b	Envirodyne Industries 13a
Acme Electric 7a	Apollo Computer 16c	Baxter International 10b	Central Sprinkler 13a	Convex Computer 16c	Diasonics 10b	Epsilon Data Mgmt. 16b
Acme-Cleveland 13b	Apple Computer 16c	B-E Holdings 13c	Cerner 10b	Cooper 10b	Diebold 16a	Equation 2b
Acuson 10b	Applied Biosystems 7c	Beatrice 8	Cetus 10a	Cooper Tire & Rubber 2c	Digicon 9b	Essex 13a
Axiom 16b	Applied Magnetics 16e	Becton, Dickinson 10b	Champion Parts 2b	Coors (Adolph) 5c	Digital Communs. 16f	Esselte Business 16a
ADAC Laboratories 10b	Applied Materials 13c	Bell & Howell 16a	Champion Spark Plug 2b	Cordis 10b	Digital Equipment 16c	Esterline 7c
Adage 16f	Applied Power 13c	Bemis 6	Charter Power Systems 7a	Corning 13a	Digital Microwave 7b	Ethyl 3
Adams-Russell 7b	Archer Daniels Midland 8	Best Lock 13b	Chattam 5b	CPC International 8	Dionex 7c	Evans & Sutherland 16g
Adaptec 7d	Archive 16e	Betz Laboratories 3	Checkpoint Systems 7b	CPT 16h	Distributed Logic 16f	Everex Systems 16c
ADC Telecomm 19	Arco Chemical 3	Bic 13a	Chemed 5b	Crane 13a	Domain Technology 16e	Exar 7d
Adobe Systems 16g	Aristech Chemical 3	Binks Mfg. 13c	Cherry 16f	Cross 10b	Donaldson 2b	Excel Industries 2b
Advanced M. Co. 7d	Artech 18	Bio-Rad Laboratories 7c	Chevron 9a	Crompton & Knowles 3	Donnelly 13a	Excelan 16h
AFP Imaging 12	ARIX 16c	Biocraft Laboratories 10a	Chips & Technologies 7d	Cross & Trecker 13b	Dotbrix 7d	Exxon 9a
Agway 8	Armco 14b	Biomet 16c	Chrysler 2a	Crown Crafts 13d	Dover 13c	
Air Products & Chemicals 3	Armstrong World Inds. 5a	Black & Decker 13b	Church & Dwight 5b	CTS 7b	Dow Chemical 3	
Albany International 13d	Artra Group 13a	Black Drug 5b	Clark Equipment 13b	Cubic 7b	Dravo 18	
Alcoa 14a	Ashland Oil 9a	Blount 11	Clorox 5b	Cullinet Software 16g	Dresser Industries 13c	Fab industries 13d
Alus 16g	Ashton-Tate 16g	BMC Software 16g	CMI 13c	Cummins Engine 2b	DSC Communications 19	Faberge 5b
Allegheny International 5a	ASK Computer 16g	Baoing 1	CMS Enhancements 16e	Curtiss-Wright 1	DST Systems 15	Fairchild Industries 1
Allegheny Ludlum 14b	AST Research 16c	Boise Cascade 17	Cipher Data Products 16e	CyCare Systems 16b	Du Pont 3	Farley 5c
Alliant Computer 16c	Astec Industries 13c	Bolar Pharmaceutical 10a	Circon 10b	Cypress Semiconductor 7d	Duriron 13c	Farmland Industries 8
Allied Research 13a	AT&T 19	Balt Beranek 16h	Clairson International 13a		DWG 13d	Farr 13c
Allied-Signal 4	Atari 16c	Baale & Bobbage 16g	Clarcor 6		Dyatron 16b	Fedders 5a
Allis-Chalmers 13c	Atlantic Richfield 9a	Borden 8	Clark Equipment 13b		Dynamics Corp. 5a	Ferro 3
Alloy Computer 16f	Augat 7d	Borg-Warner 18	Clorox 5b		Dynamics Research 16h	Fiber Industries 3
Alpha Industries 7d	Auto-tral Technology 16h	Borland International 16g	Coleco 12		Dynascan 7b	Fibronics Intl. 16a
Alpha Microsystems 16c	Autoclave Engineers 7c	Bowmar Instrument 7c	Coleman 12		Dynatech 16f	Figgie International 4
Alterra 7d	Autodesk 16g	Brady (W. H.) 13a	Colgate-Palmolive 5b			FileNet 16a
Altos Computer 16c	Automatic Data 16b	Briggs & Stratton 13c	Colt Industries 4			Filtertek 7c
Alza 10a	Avantec 7d	BRIntec 19	Combustion Eng. 18			Finnigan 7b
AM International 16f	Avery International 13a	Bristol-Myers 10b	Comdial 19			First Brands 13a
Amdahl 16c	Avon Products 5b	Brown & Sharpe Mfg 13b	Commercial Intertech 13c			First Mississippi 3
American Brands 5c	Aydin 7b	Brunswick 12	Communs. Satellite 19			Fischer & Porter 7c
American Crystal Sugar 8		Brush Wellman 14c	Comnet 10b			Fiserv 15
American Cyanamid 3		Burlington Holdings 13d	Compag Computer 16c			Fisher Scientific Group 10b
American Filtrona 13a		Burr-Brown 7d	CompuChem 10b			Fleetwood Enterprises 12
American Home Prods. 10a		Butler Mfg. 18	CompuDyne 7b			Flow General 18
American Medical 8			Computer & Comm. 16e			Fluke (John) Mfg. 7c
American Petroleum 16g			Computer Associates 16g			Fluorocarbon 13a
American Standard 11			Computer Language 16b			FMC 13c
Ameron 11			Computer Products 7a			Fonar 10b
Ametek 7a			Comshare 16g			Ford Motor 2a
Ameron 10a			Concept 10b			Forest Laboratories 10a
Amoco 9a			Concord Fabrics 13d			Formica 11
AMP 7d			Carpenter Computer 16c			Foster Wheeler 18
Analog Devices 7d			Conner Peripherals 16e			Foxboro 7c
Analogic 7c						Franklin Computer 16a
Andig 18						Franklin Electric 7a
						Fruehauf 2b
						Continued on page 232



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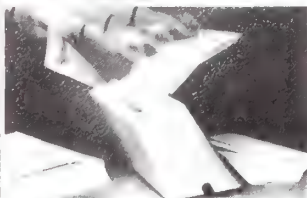
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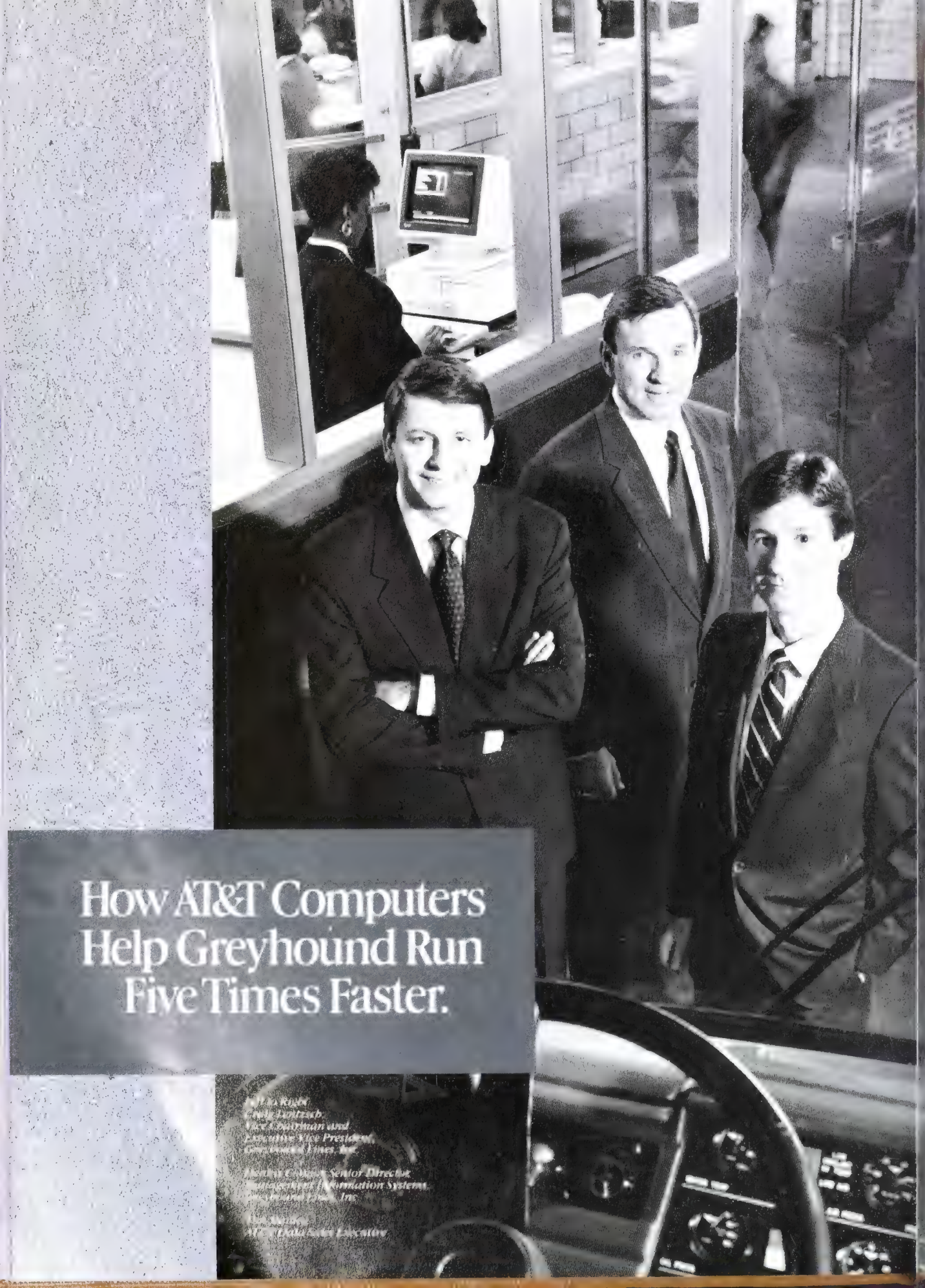
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BusinessWeek

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CORPORATE BOARDS

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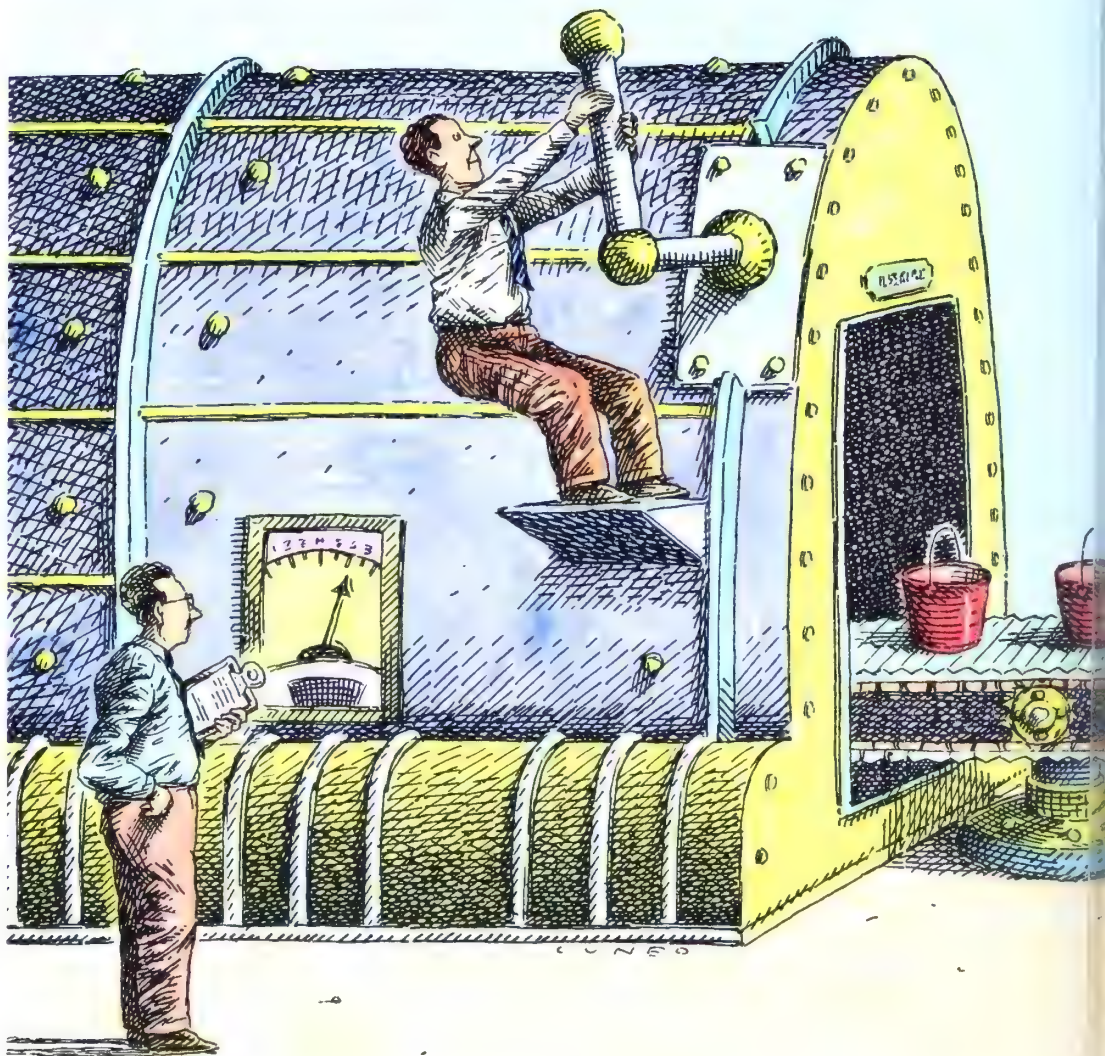
Some directors are finally taking charge,
but they could all be more effective. Here's how.



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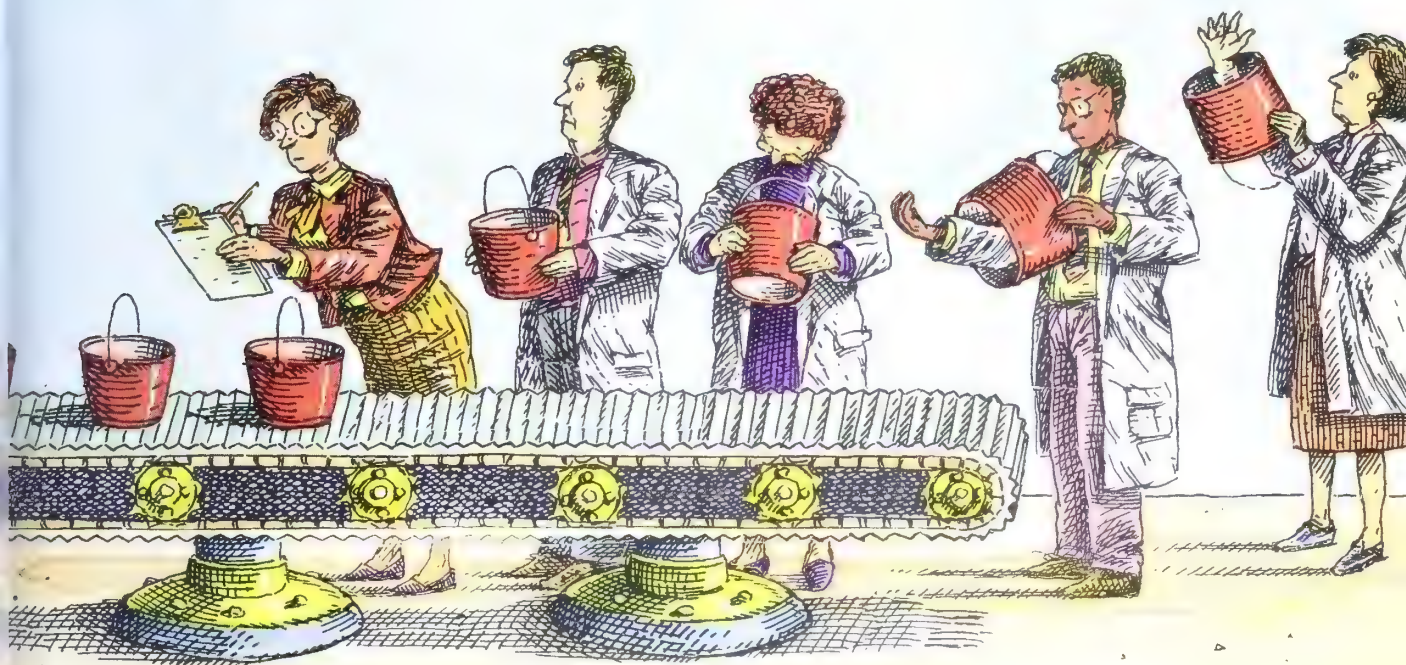
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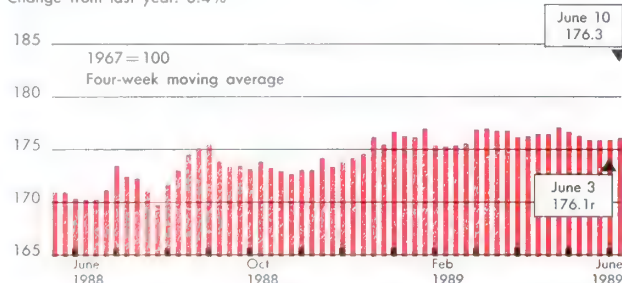
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BusinessWeek Index

PRODUCTION

Change from last week: 0.1%
Change from last year: 3.4%

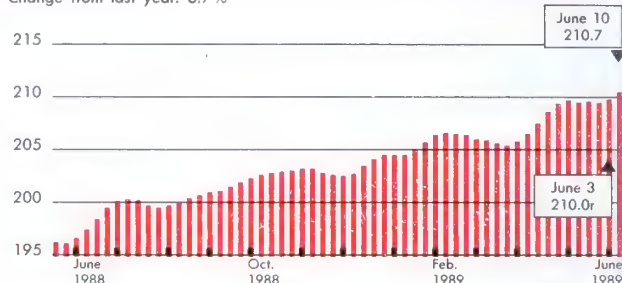


The production index edged up slightly in the week ended June 10, continuing its sluggish pace so far in 1989. On a seasonally adjusted basis, output of trucks, autos, rail-freight traffic, coal, lumber, and steel increased. Electric power, paper-board, and paper production declined, and crude-oil refining output was unchanged from the previous week. Prior to calculation of the four-week moving average, the index dropped to 175.7 from 176.4.

BW production index copyright 1989 by McGraw-Hill Inc.

LEADING

Change from last week: 0.3%
Change from last year: 6.7%



The leading index increased for the week ended June 10. The index now stands at its highest level in almost two years and continues to signal an expanding economy. Higher stock prices, lower bond yields, fewer business failures, and faster growth in M2 offset declines in the growth rates of materials prices and real estate loans. Before calculation of the four-week moving average, the index advanced to 211.2 from 210.2 in the previous week.

Leading index copyright 1989 by Center for International Business Cycle Research

PRODUCTION INDICATORS

	Latest week	Week ago	% Change year ago
STEEL (6/17) thous. of net tons	1,924	1,919r	3.4
AUTOS (6/17) units	141,151	140,501r	-16.0
TRUCKS (6/17) units	87,737	87,957r	0.7
ELECTRIC POWER (6/17) millions of kilowatt-hours	54,477	54,446r	-3.6
CRUDE-OIL REFINING (6/17) thous. of bbl./day	13,748	13,803r	2.7
COAL (6/10) thous. of net tons	19,482r	17,794	10.5
PAPERBOARD (6/10) thous. of tons	754.4r	767.3r	0.3
PAPER (6/10) thous. of tons	719.0r	730.0r	-2.0
LUMBER (6/10) millions of ft.	501.4r	401.3	3.7
RAIL FREIGHT (6/10) billions of ton-miles	19.6r	17.9	0.5

Sources: American Iron & Steel Inst., Ward's Automotive Reports, Edison Electric Inst., American Petroleum Inst., Energy Dept., American Paper Inst., WWPAA¹, SFPA², Association of American Railroads.

FOREIGN EXCHANGE

	Latest week	Week ago	Year ago
JAPANESE YEN (6/21)	144	149	130
GERMAN MARK (6/21)	1.98	2.03	1.80
BRITISH POUND (6/21)	1.55	1.51	1.75
FRENCH FRANC (6/21)	6.68	6.87	6.05
CANADIAN DOLLAR (6/21)	1.20	1.20	1.20
SWISS FRANC (6/21)	1.71	1.75	1.49
MEXICAN PESO (6/21) ³	2,493	2,487	2,300

Sources: Major New York banks. Currencies expressed in units per U. S. dollar, except for British pound expressed in dollars.

PRICES

	Latest week	Week ago	% Change year ago
GOLD (6/21) \$/troy oz.	365.900	361.100	-18.4
STEEL SCRAP (6/20) #1 heavy, \$/ton	114.50	114.50	3.6
FOODSTUFFS (6/19) index, 1967=100	224.8	222.8	-10.2
COPPER (6/17) c/lb.	115.8	114.8	0.0
ALUMINUM (6/17) c/lb.	87.5	92.0	-33.2
WHEAT (6/17) #2 hard, \$/bu.	4.45	3.96	15.9
COTTON (6/17) strict low middling 1/16 in., c/lb.	64.65	61.60	1.7

Sources: London Wed. final setting, Chicago mkt., Commodity Research Bureau, Metals Week, Kansas City mkt., Memphis mkt.

LEADING INDICATORS

	Latest week	Week ago	% Change year ago
STOCK PRICES (6/16) S&P 500	323.08	325.33	18
CORPORATE BOND YIELD, Aaa (6/16)	9.02%	9.16%	-8
INDUSTRIAL MATERIALS PRICES (6/16)	104.7	103.5	2
BUSINESS FAILURES (6/9)	231	256	-25
REAL ESTATE LOANS (6/7) billions	\$326.3	\$325.6	14
MONEY SUPPLY, M2 (6/5) billions	\$3,083.4	\$3,079.8r	2
INITIAL CLAIMS, UNEMPLOYMENT (6/3) thous.	307	336r	7

Sources: Standard & Poor's, Moody's, Journal of Commerce (index: 1980=100), Dun Bradstreet (failures of large companies), Federal Reserve Board, Labor Dept. CIBCR seasonally adjusts data on business failures and real estate loans.

MONTHLY ECONOMIC INDICATORS

	Latest month	Month ago	% Change year ago
CONSUMER PRICE INDEX (May)	123.8	123.1	5
REAL GROSS WEEKLY PAY (May)	\$165.18	\$167.35r	-1
HOUSING STARTS (May) annual rate, thous.	1,311	1,339r	-5
INDUSTRIAL PRODUCTION (May) total index	141.4	141.4r	3

Sources: BLS, Commerce Dept., Federal Reserve

MONETARY INDICATORS

	Latest week	Week ago	% Change year ago
MONEY SUPPLY, M1 (6/5)	\$776.0	\$773.7r	0
BANKS' BUSINESS LOANS (6/7)	317.2	317.9r	4
FREE RESERVES (6/14)	350	656r	61
NONFINANCIAL COMMERCIAL PAPER (6/7)	125.6	122.8	37

Sources: Federal Reserve Board (in billions, except for free reserves, which are expressed for a two-week period in millions).

MONEY MARKET RATES

	Latest week	Week ago	Year ago
FEDERAL FUNDS (6/20)	9.41%	9.30%	7.54
PRIME (6/21)	11.00	11.00	9.50
COMMERCIAL PAPER 3-MONTH (6/21)	9.14	9.01	7.50
CERTIFICATES OF DEPOSIT 3-MONTH (6/21)	9.30	9.20	7.53
EURODOLLAR 3-MONTH (6/14)	9.18	9.35	7.51

Sources: Federal Reserve Board, First Boston

Raw data in the production indicators are seasonally adjusted in computing the BW index (chart); other components (estimated and not listed) include machinery and defense equipment
1= Western Wood Products Assn. 2= Southern Forest Products Assn. 3= Free market value NA=Not available r=revised NM=Not meaningful

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WHY DETROIT CAN'T GET ITS ACT IN GEAR

Your article ("Detroit tries to rev up," Cover Story, June 12) fails to point out one fact: The auto makers' efforts at retail marketing have been a flop.

Manufacturers could restore consumer confidence in the car market if they would end the phony rebate and low-interest-rate finance programs and establish a single, no-nonsense, per-model price for the vehicles. The public is tired of on-again, off-again rebate programs that confuse both dealers and buyers. A child can figure out that no one, consumer or dealer, ever buys a car with zero or 2.9% interest. Somebody pays the bill. That somebody is the consumer.

And consumers would pay less for cars if manufacturers stopped [discounting] sales to national fleet and leasing companies. Somebody has to pay when nearly 20% of all cars sold go into rental fleets. Who pays? The consumer.

Ron B. Tonkin
President
National Automobile Dealers Assn.
McLean, Va.

As Detroit tries to rev up, it is interesting to read that Chrysler, Ford, and GM are turning to intensified advertising and promotion, sharper market segmentation, and greater focus on the dealer system. However, one has to wonder why the people who manage the U.S. auto industry have not tried something truly revolutionary: building good, reliable, and trouble-free cars.

Stephen Hartogensis
Vice-President
Finance and Business Planning
SmithKline Beckman Animal
Health Products
West Chester, Pa.

In your cover story, you conclude that "... Joe Isuzu has built brand awareness (but) the smarmy, lying salesman hasn't created a positive image for Isuzu: Its U.S. car sales fell 38% last year." You almost got the story correct. You forgot about trucks.

American Isuzu is severely limited in

the number of passenger cars it is allowed to sell in the U.S. The so-called Voluntary Restraint Agreement has forced Isuzu to place its marketing emphasis on trucks. Consequently, 80% of total Isuzu sales consist of pickup trucks, as well as the popular Trooper.

Isuzu truck sales were up 4% in 1988. Thus far in 1989, truck sales are up 19% and total car-and-truck sales are up 14% while our competitors continue their negative sales trends.

Dennis J. "Denny" Remsing
Senior Vice-President
Della Femina, McNamee WCRS Inc

Editor's note: The Della Femina McNamee WCRS advertising agency created the Joe Isuzu campaign for American Isuzu Motors.

THE AMERICAN FAMILY DOESN'T NEED A ROCKET SHIP

The self-deluded designers at General Motors have done it to themselves again ("A car that's just the way its designers wanted it," Science & Technology, June 5). This time, they've hatched a radically different-looking minivan that apparently appeals to their artistic conceit and pleases their top brass. But are American consumers really clamoring for family wagons shaped like rocket ships?

Maybe it's time for stockholders to jack up GM and replace its wheels—the big wheels who repeatedly guess wrong about the American consumer.

Gary N. MacDougall
North Haven, Conn

A MUTUAL FUND THAT'S ENVIRONMENT-FRIENDLY

The article ("You just might clean up with pollution stocks," Personal Business, June 12) stated "... Fidelity Investments is developing what could be the first mutual fund devoted to the stock group."

This came as quite a surprise to SF Financial Services. Our Environmental Awareness Fund has been in existence since Dec. 1, 1988. Not only has it met the needs of investors looking for a socially conscious mutual fund but it has

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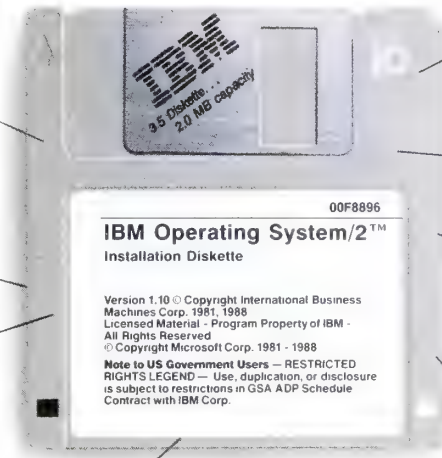
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Readers Report

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Andrew Groshans
Portfolio Manager

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King of Prussia, Pa.

WHAT'S MISSING FROM IBM'S MAINFRAME STRATEGY

Your article on IBM and the future of their mainframe business ("A bold move in mainframes," Cover Story, May 11) overlooked one important prerequisite for IBM to reestablish mainframe sales to previously high levels. Specifically, PCs and other intelligent stations connected to the mainframe—which the article asserted would drive up mainframe utilization—will only do so if relevant data is stored in the mainframe and accessible to users.

For IBM's strategy for mainframe growth to be successful, organizations must adopt information-engineering techniques to correctly identify critical data, and they must also install relation- software technology to establish flexible, easy-to-use data bases.

G. L. Mann
Fullerton, Calif.

WHY WAIT FOR DISARMAMENT?

In regard to "Fewer guns could mean a whole lot more butter" (Economics, June 12), those of us who are old enough to recall a somewhat faster conversion from guns to butter—when we demobilized 10 million young men and women at the end of World War II—realize that we may face temporary dislocations but that the overall results are very good indeed.

Now that mutual nuclear deterrence among England, France, and the USSR has made the large forces of NATO and the Warsaw Pact obsolete, and now that we understand that a force of a few hundred second-strike strategic nuclear missiles is sufficient for deterrence, there is nothing to keep us from disarming as fast as we wish, no matter what the Soviets do.

The economic results will be good. The effects on public morale will be great.

Richard C. Raymond
Santa Barbara, Calif.

WHAT TO COUNT ON FROM CHAPTER 11 INVESTMENTS

In regard to the average performance of bankrupt debt and equity securities for the period around the bankruptcy filing date ("Look before you laugh at Chapter 11' investments," Personal

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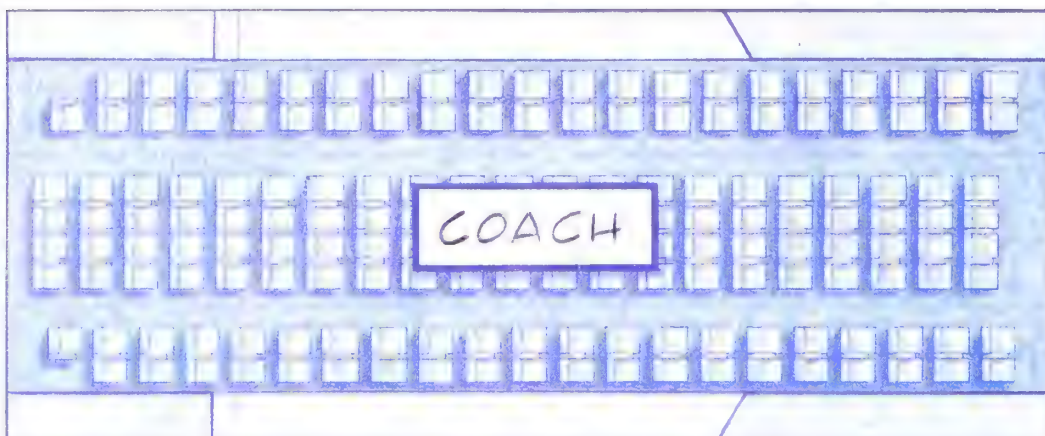
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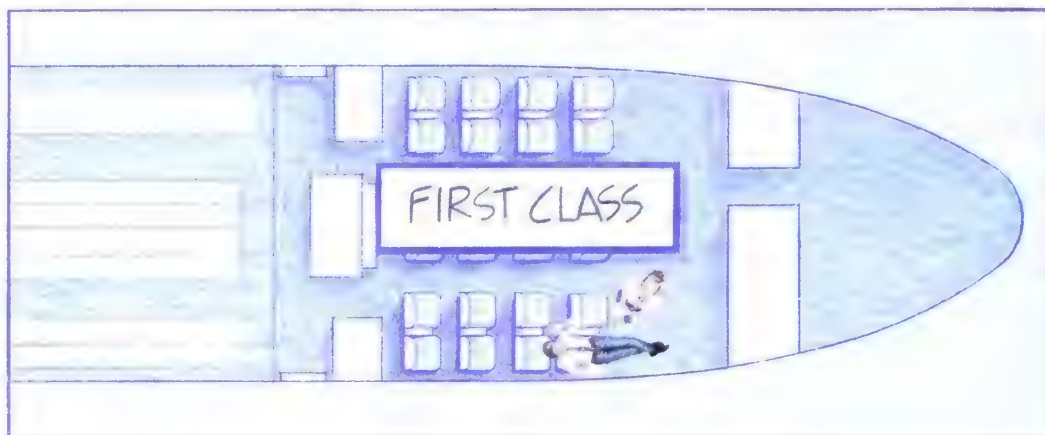
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CONTINENTAL

Readers Report

CORRECTIONS & CLARIFICATIONS

The article "More companies are chucking their computers" (Information Processing, June 19) said Ralston Purina Co. was purchased by British Petroleum Co. Ralston sold its Purina Mills Inc. unit to a subsidiary of BP in 1986, but Ralston Purina itself remains an independent, publicly held company.

"This policy takes the sting out of inheritance taxes" (Personal Business, June 12) overly simplified federal estate-tax rates. Although the official rate schedule does start at 18%, as stated, the article didn't note that a credit erases the tax liability until the estate reaches \$600,000. At that point, taxation starts at a 37% rate; it rises to a maximum of 55% above \$3 million.

business, Apr. 10), please note that the average stock loses 35% to 40% and the average bond loses 20% of its value between the month-end prior to the filing date and the end of the month of the bankruptcy.

Edward I. Altman
Max L. Heine Professor of Finance
and MBA Program Chairman
Stern School of Business
New York University
New York

CRESTAR'S SALES WERE UP, NOT OFF

The sales column for the first quarter of 1989 for Crestar Financial Corp. "These are not really the best of times," Corporate Scoreboard, May 15) contains an error.

Sales should have been shown as \$271 million, up 10.6% over the same period in 1988. This revenue was derived from earning assets (\$239.5 million) and noninterest income (\$31.5 million) during the first three months of 1989. The same category totals were added to report 245 million in sales for Crestar in the 1988 Scoreboard.

While I understand that this was not an egregious error, nevertheless it does misstate Crestar's performance by suggesting that sales were off \$140 million, or 23%.

Ellwood F. Hudson
Senior Vice-President
Crestar Financial Corp.
Richmond, Va.

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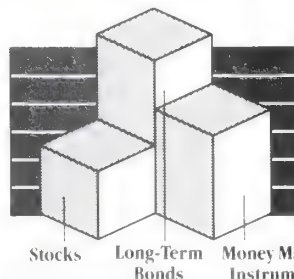
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MAD DREAMS, SAVING GRACES—POLAND: A NATION IN CONSPIRACY

By Michael T. Kaufman

Random House • 270 pp • \$19.95

WHERE BUCKING THE SYSTEM IS BRED IN THE BONE

Solidarity founder Lech Walesa likes to describe Poland's trade-union movement as a river that sometimes rises in torrents, then disappears underground to flow unseen. The birth of Solidarity in 1980 and the subsequent imposition of martial law riveted Western attention. Just weeks ago, the union's triumph in the communist world's freest elections in 40 years renewed intense global interest.

New York Times correspondent Michael T. Kaufman was posted to Poland, his father's homeland, for the 3½ years between these watershed events. By tapping the country's underground currents, he has produced a timely and poignant chronicle of the communist bloc's most combustible member during a crucial time. Poland, he says, may well be the crucible for the future of Soviet leader Mikhail S. Gorbachev's economic reforms. And he thinks the country's fate will define the new political chemistry in East-West relations.

But *Mad Dreams, Saving Graces* is no geopolitical head-scratcher. Kaufman's terrain is the basement lair of pamphleteers and plotters, "a conspiratorial society of honorable men." In this admittedly partisan account, the heroes print uncensored encyclopedias, train people to cope with prison, and stoically go to jail themselves. In the streets, old women taunt masked *Zomos*, the brutal Polish security forces: "We know you need the extra money, but think, how does your mother feel?"

On such unlikely battlegrounds, Solidarity fought, and finally won, its long war of nerves with the repressive regime of General Wojciech Jaruzelski. If Poland's government is talking reform at last, Kaufman writes, "it is in significant degree simply responding to a persistent underground, reckoning with ideas it could not squelch."

In part because of its proximity to

Western Europe, and also because so many Poles emigrated to the U.S., Poland has never seemed very remote to Americans. But Kaufman shows that it is. Centuries of occupation and suffering—including the country's role as a gigantic killing field during World War II—have bred isolation and idiosyncrasies that distance Poland from Western understanding. In response to years of foreign domination, Poles have wrapped themselves in a protective cloak of national culture. The past lives vividly in



THE JUNE 4 VOTE: CAN SOLIDARITY LEARN TO REFORM INSTEAD OF REVOLT?

the present. Legends of daring, written by nationalist poets long dead, reverberate through everyday speech and thought. Polish children's heroes are people who spent years in prison or in exile. In the U.S., the idea of sacrificing oneself for a cause without hope of victory is nearly incomprehensible. In Poland, it is the stuff of rapture.

Kaufman also finds contradictions that border on absurdity in Polish life. The event that outraged the Communist Party was a communist ideal: a workers' uprising. To pile on the irony, it took place in a shipyard named for Lenin. The priest who is Walesa's spiritual adviser drives a Mercedes-Benz. Jaruzelski, whose declaration of martial law probably saved Soviet leader Leonid I. Brezhnev from an international crisis, is the son of a man who died in a Soviet gulag.

Throw in an economy where up to 40% of coal production is used to produce more coal, and you begin to understand a psyche in which provocation and conspiracy are national pastimes—the only way to make sense of all the paradoxes.

Reporting on this brand of warfare requires intimacy, and Kaufman has a special entrée. In 1933, his father fled Poland after spending 9½ years in prison for being an organizer of the then illegal Communist Party. While Kaufman was in Poland, his father visited Warsaw and was filled with guilt. The elder Kaufman found the same repression he escaped—even the statutes formalizing it were intact. But the Communists have become the oppressors.

The ironies are painful. One day, a father and son try to visit a museum commemorating past revolutionary movements, a Polish guard, in a demonstration of authority, denies them entry.

The museum, Kaufman observes, is in jail where his father of three different occasions was imprisoned for nearly a year.

Although the author's personal touch and skillful writing make compelling reading, his political analyses fall short. He credits Solidarity's incremental resistance with transforming the communist world in the way that Mohandas Gandhi's civil disobedience transformed India. But Kaufman understates Gorbachev's huge impact on the Polish government's tolerance for reform.

Even in the age of *glasnost*, the tale doesn't wag the communist dog to the extent Kaufman thinks.

And what of the "conspiratorial society" now? Will a nation conditioned to fight a corrupt system learn how to reform it instead? Or will Solidarity, now a legitimate voice in government, become the target of a new revolution? Kaufman doesn't attempt an answer. But the remark of one Solidarity leader after the union's election victory backs up the thesis of this illuminating book. The trick the unionist noted, is for Solidarity to continue to behave like an opposition. Without an underground river, he and Kaufman seem to be saying, Poland would not be Poland.

BY BILL JAVETSKY

Washington Correspondent Javetski interviewed Walesa in Poland last year.

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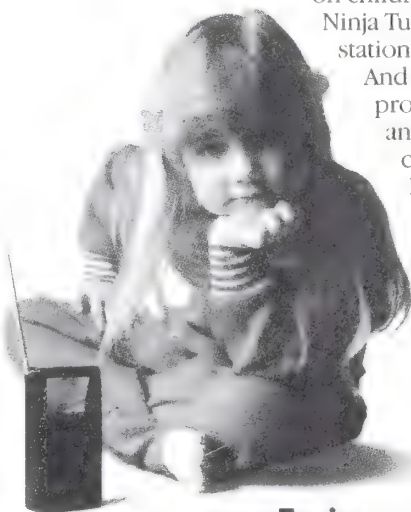
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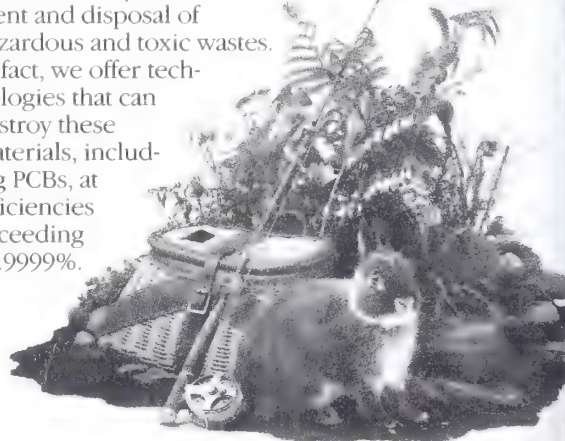


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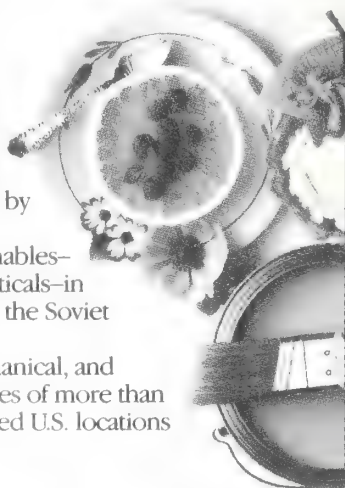
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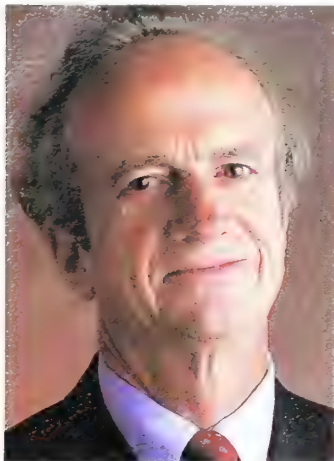
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TUNING IN TO THE NEEDS OF HIGH SCHOOL DROPOUTS

BY GARY S. BECKER



It's neither fair
nor efficient to spend
approximately \$4,000 a year
on educating each
high school junior
and senior—and only a
pittance on training
high school dropouts

Since the early 1970s, real wage rates of young high school dropouts have fallen by more than 30%, probably the largest decline during this century for any education group. The fraction of students who drop out of high school remained fixed at about 15% during the '70s and '80s. But the overall dropout rate for inner-city black males is much higher—close to 25%.

Research by Professor Kevin M. Murphy at the University of Chicago also shows that during the past 15 years, earnings for the bottom quarter of young male high school graduates fell at almost the same rate as the dropouts' earnings did. By contrast, real wages of high school graduates rose over this period.

A number of explanations have been advanced for this trend. For one, methods of production and the goods and services appropriate to a modern economy strongly favor educated and skilled workers. Second, the fierce competition from goods produced abroad has hurt less-trained workers in the U.S.

Pressure to reform high school education in America, especially in the inner cities, reflects concern over the dismal statistics. Although teaching in many urban areas can be greatly improved, a well-funded federal-state program that combines training with on-the-job experience would be even more important.

USEFUL MODEL. It's widely recognized that the bottom quarter of U.S. high school students aren't well prepared for employment. An extensive training and employment program designed for high school dropouts could greatly improve their economic prospects. Ideally, each dropout would get as much as two or three years of training and employment at a craft or other practical skill. Taxpayers would pick up the cost of training and might also subsidize companies that employ participants, especially in the early stages of the program.

Such a plan would partly supplement several current programs, especially the Job Training Partnership Act. This has apparently been rather successful at placing participants in useful jobs, but it has served only a fraction of young dropouts.

The West German system provides a useful model. Almost three-fourths of young Germans get classroom instruction in one of more than 400 trades, plus on-the-job experience. Training usually begins at age 15 or 16, typically when U.S. teens drop out, and continues for upwards of three years. State governments pay for classroom instruction, which comes to about a day a week, while employers pay wages, which average more than \$500 per month. This sys-

tem is probably the reason that West Germany has one of the lowest youth unemployment rates of any country in the Organization for Economic Cooperation & Development.

A program for U.S. dropouts would enroll a much smaller fraction of young people than in Germany because a much larger percentage graduate from high school in America. But the German experience shows that an intensive training and job program can greatly improve the performance of high school dropouts in the labor market.

GREATER CHOICE. Such a project would add to public spending when budget deficits have created pressure to cut expenses. But surely it's neither fair nor efficient to spend approximately \$4,000 annually on educating each high school junior and senior—and only a pittance on training high school dropouts. Moreover, high school education would become cheaper if less effort had to be devoted to keeping in school young people who would prefer a training-employment program that better suits their interests and talents.

Some of the bottom quarter of students who now finish high school would drop out to take advantage of such a training program. This is no cause for concern, since the evidence on earnings shows that these students currently don't benefit much from finishing high school. They're better off getting training and experience more closely oriented to productive employment. And their participation might not add to total public spending because of the money saved on the portion of their high school education that they skip.

Education Secretary Lauro F. Cavazos recently endorsed the principle of giving students a greater choice in the public schools they attend. The inner-city and minority youth who would constitute a large fraction of participants in a skill acquisition program for dropouts currently cannot choose the high schools they attend. But they would be able to choose the private trade schools and companies where they could get their training and jobs. Though it is true that some trade schools have notoriously poor training standards, I believe competition would force these trade schools and companies to serve these students better than inner-city high schools have.

The U.S. needs to improve the quality of its work force to become more competitive in the international market. What we are talking about is an investment in this nation's human capital. The dismal prospects of young high school dropouts would be much brighter if they could get extensive training and employment experience in a useful trade.

GARY S. BECKER IS UNIVERSITY PROFESSOR OF ECONOMICS AND SOCIOLOGY AT THE UNIVERSITY OF CHICAGO



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Economic Trends

BY GENE KORETZ

FOR HOMEBUILDERS, THE WOLF IS AT THE DOOR . . .

Despite a recent easing of interest rates, the housing market is still in a downward trend. After dropping 5% in April, housing starts fell an additional 2.1% in May, to a 1.31 million-unit annual rate—their fourth consecutive decline and the lowest level since late 1982. The market—whose declines in past decades often led the economy into recession—is “weaker than I expected,” says economist Dean Crist at the National Association of Home Builders.

Crist and others are most worried about single-family starts, which account for the vast majority of all units built and have held up relatively well in recent years. (In contrast, the multifamily sector is still suffering from the vast overbuilding encouraged by tax incentives earlier in the decade.) Thus far in 1989, though, the omens have not been reassuring: Existing-home sales have

gauge-qualification rules and the absence of “teaser rates” on new adjustable-rate mortgages are also throwing up roadblocks. “Builders tell us they’re seeing decent traffic out there,” says Crist, “but not a lot of transactions.”

Economist Mark Lasky at DRI/McGraw-Hill thinks that starts could rebound smartly as mortgage rates continue to fall. But John Savacool, an economist at WEFA Group, predicts that any recovery will be subdued. He notes that not only are young, first-time home buyers virtually priced out of the market but also that their numbers are decreasing. “There’s not much pent-up demand left after the strong years we saw earlier in the expansion,” he says, “but if rates continue to decline, we could see a moderate pickup later this year.”

For many homebuilders, whose biggest season is in the spring, a delayed pickup would be cold comfort. “If June turns out to be another month like May,” says Crist, “we’ve got problems.”

... BUT AN EVEN BLEAKER FUTURE MAY BE LOOMING

The housing sector is becoming increasingly sensitive to economic downturns. That’s the thesis of a recent study by economist Richard Hokenson at Donaldson, Lufkin & Jenrette Inc., who claims that lifestyle changes are combining with demographic trends in ways that will tend to exacerbate housing slumps and economic contractions.

According to Hokenson, this development first became apparent during the 1981-82 recession. The critical factor was the unprecedented slowdown in household formations. The number of households, which has always increased even during contractions, posted its slowest growth in the current century. As a result, housing starts, already weakened by the 1980 recession, fell four years in a row for the first time since the Depression. And consumer expenditures on housing services and operations also registered unusually weak increases. Such expenses, which account for more than 20% of personal consumption, normally shore up the economy by remaining relatively strong during downturns.

Hokenson contends that lagging household growth is partly the result of the rising number of unmarried adults, many of whom have difficulty setting up independent living quarters. Since 1986, for example, some 13% of men age 25 and over have been living in households headed by other people—in many cases, their parents. Other new patterns in-

clude families, often two or more women and their children, living together.

Such trends tend to accelerate during economic downturns. Moreover, the growth rate of the adult population, which was close to 2% in the early 1980s, is now about 1.5% a year, and will fall below 1% in the decade ahead. Thus, Hokenson expects household growth to slacken even more and possibly to turn negative in future recessions. As a result, he says, “homebuilding will be even more cyclical than in the past and housing-related expenditures will be less stabilizing, producing harder landings for the economy.”

THE MAJOR ECONOMIES ARE OUT OF SYNC —AND THAT’S GOOD

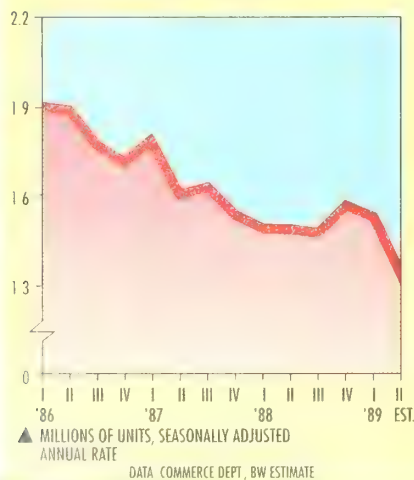
What the world needs now, say the economic pundits, is a nonsynchronous expansion. A faster pace in Japan and West Germany would offset the U.S. economic slowdown and help shrink America’s trade deficit while trimming surpluses overseas.

Fortunately, that’s what seems to be happening, reports Steven Nagourney of Shearson Lehman Hutton Inc. The German economy, Europe’s locomotive, grew at a 12.5% annual rate in the first quarter, he notes. And Japan’s annual growth rate was a heady 9.1%. Looking ahead, Nagourney expects inflationary pressures in Germany and Japan to subside as their economies slow to a more sustainable clip. But their growth should still outpace that of the U.S.

THE BOOM IN FOREIGN INVESTMENTS ISN’T BUILDING NEW PLANTS

The huge surge in foreign direct investment in the U.S. economy has involved surprisingly little construction of new manufacturing facilities, says economist Susan Lakatos at Kidder, Peabody & Co. Her analysis indicates that except for the auto industry, foreign-plant construction in America has not accelerated at all during the 1980s. Even with autos, dollars spent by foreigners on capital expansion rose from only \$3.3 billion in 1983 to \$5 billion last year, while total foreign direct investment exploded from \$8 billion to \$65 billion. “The emphasis has been almost entirely on mergers and acquisitions,” says Lakatos. “Although half of direct investment is going into manufacturing, foreigners are buying, not building.”

HOUSING STARTS KEEP FALLING



been falling steadily, while new-home sales have recently been running nearly 10% below their year-earlier pace. And May marked the second time in 1989 that single-family starts fell below a 1 million-unit annual rate. The last year they came in below that level was 1982.

The key question is whether the latest housing numbers simply reflect a lag in the market's response to lower rates or something more serious. NAHB members report that the combination of the slowing economy and high home prices relative to income have made prospective buyers increasingly wary. Stiffer mort-

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Reliability	9.6	vs. 9.3
Operating system	9.6	vs. 8.8

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*For systems and sites surveyed; 1988 independent survey of over 600 user sites.

†Four IBM 3090 performance ranges surveyed. Results reported represent best IBM score for each category.

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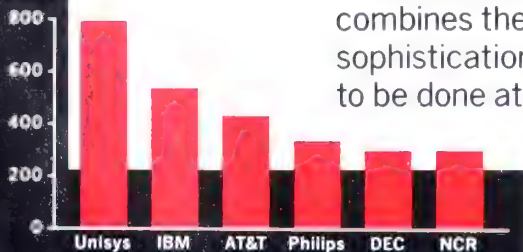
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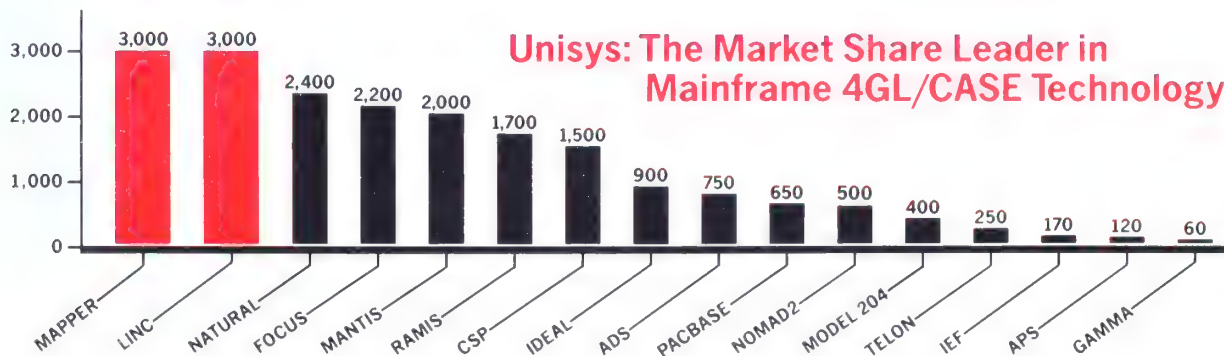
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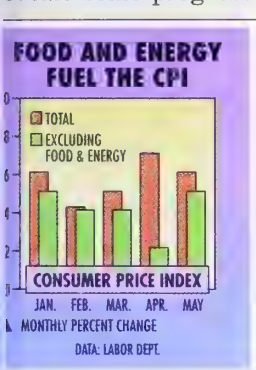
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INFLATION MAY SOON RAISE THE WHITE FLAG

It's still too early for investors to start climbing out of their foxholes, but the battle to contain inflation may be nearing an end—and the Federal Reserve is winning. The Fed's 16-month mission to vent price pressures by slowing the economy looks increasingly successful.

True, the price indexes aren't exactly confirming that just yet: Producer and consumer prices accelerated sharply in the first half, and both made uncomfortable jumps in May. But a deeper look at the fundamentals reveals some progress that brightens the outlook.



Slower growth in domestic demand, particularly in consumer spending, is causing industrial production to shift to a lower gear. That's easing capacity pressures in many primary processing industries where prices had been rising sharply. The stronger dollar also ameliorates inflation, although it does threaten continued improvement in the trade deficit.

Clearly, speculators smell something in the wind. The Commodity Research Bureau's closely watched index of futures prices for commodities has fallen some 15% below its peak of last summer. Metals prices are generally lower, and the price of gold, traditionally a hedge against inflation, is still on its downward track.

SERVICE COSTS ZOOM HIGHER

As yet, though, inflation is still squeezing consumers. The consumer price index rose 0.6% in May, after an even steeper 0.7% increase in April. In fact, so far in 1989, the CPI has risen at a 6.7% annual rate, compared with 4.4% during all of 1988. But even so, the underlying trend is not as bad as it seems.

The volatile food and energy sectors, some 24% of the CPI, have accounted for nearly all of that acceleration. Inflation in those two sectors is influenced more by supply—which is beyond the Fed's control—than by demand. Excluding food and energy, the CPI has risen at an annual rate of only 4.8% so far this year, virtually no speedup from the 4.7% pace for all of last year.

Prices for food and energy paced the May increase. That has been the case in each month this year (chart). Prices for grocery store foods rose 0.8% in the month, led by big gains in fruits, vegetables, and poultry. And energy prices jumped 1.6%, after a huge 5.1% advance in April. Higher gasoline prices fueled both increases.

In general, the outlook for inflation in goods is better

than it is in services. Service producers face tight labor markets and rapidly rising wages. Employment costs in services are up 5.4% in the past year, compared with 3.6% for goods producers. Service industries will try to keep prices up to maintain their profit margins. And since services are half of the CPI, that could limit improvement in the overall index.

On the goods-producing side, inflation in durable goods is already showing some improvement. That's important, because that sector typically leads changes in the overall CPI. During the past six months, the inflation rate for durable goods has risen at an annual rate of just 0.9%, down from a 2.7% pace in the previous half-year.

Excluding food and energy, goods inflation during the past six months is running at an annual rate of 3.8%, while service inflation stands at 5.3%. Although service-sector inflation is unlikely to improve much, progress in the goods sector should continue, as softer consumer demand dampens industrial activity.

FACTORIES SHIFT TO A LOWER GEAR

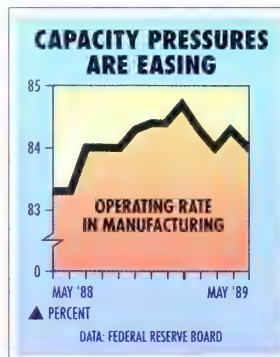
The first-quarter slowdown in industrial production continued in the second quarter. Output in the nation's factories, utilities, and mines was unchanged in May, following a 0.6% advance in April. Weakness in production of autos and construction supplies in May offset gains in business equipment and materials.

In the manufacturing sector alone, production fell 0.1%, after a strong 0.6% increase in April. Although the April gain in factory output was revised upward from 0.4%, second-quarter production likely grew at an annual rate of less than 3%—the smallest advance in three years.

That slowdown is easing capacity pressures. In May, the operating rate in manufacturing dipped 0.3 percentage points, to 84% (chart). It has been trending lower since hitting 84.7% in January, the high for the current expansion.

The slowdown in output is centered in materials rather than in final products. Despite gains in both April and May, materials output—some 42% of industrial production—has risen at an annual rate of just 0.3% in the past six months, compared with a sizzling 7.2% pace during the previous half-year. And capacity utilization in materials has fallen, from 85.1% in November to 84.2% in May.

In general, operating rates in primary processing in-



Business Outlook

dustries have fallen sharply. That's where capacity constraints were developing last year and where price pressures in the goods-producing sector were the most intense. In May, the operating rate in primary processing dipped back to its March level of 86.3%, the lowest in a year and a half.

Except for auto output, which fell 4.1% in May, the slowdown in production of finished goods has not been as sharp. Output of business equipment has grown at a healthy 8.7% annual rate during the past six months, buoyed by gains in capital spending and exports.

Output of consumer goods other than autos has been led by gains in durable homegoods, such as appliances and furnishings. Homegoods production has grown at a 5.7% annual pace during the past half-year.

That sector may slow, however, because of sluggishness in both consumer spending and housing. New home starts weakened further in May, falling 2.1% to an annual rate of 1.31 million, following a 5% drop in April. Starts of single-family homes fell to 980,000—the lowest annual pace in almost five years.

THE TRADE GAP IS GETTING SLIMMER

Despite increasing economic sluggishness, the industrial sector is still getting plenty of support from foreign demand. That's evident in the narrowing of the April merchandise trade deficit, to \$8.3 billion, from \$9.5 billion in March. After having stalled out during the second half of last year, improvement in the trade gap now seems to be getting back on track.

The main reason: Exports managed to top their March record by 0.8%, hitting a new high of \$30.6 billion (chart). The gain was led by increases in industrial materials and supplies, capital goods, and consumer goods.

The slowdown in consumer spending also is helping ease the import problem a little. Imports fell 2.6% in April, to \$38.8 billion. The drop would have been even greater but for a jump in oil imports. In the first four

months of 1989, imports stood 8.1% above the same period in 1988, a considerable slowdown from last year when they rose 13.6% ahead of the same period in 1987.

The trade deficit began the second quarter well below the \$9.3 billion average in the first quarter. So trade is now in a position to provide continued support to growth in second-quarter real gross national product.

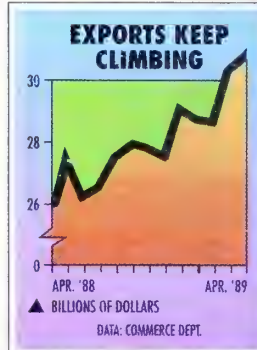
Beyond the second quarter, however, trade improvement may well fall victim to the stronger dollar, which could hit exports hard. Foreign demand for most U.S.-made goods is sensitive to exchange rates because U.S. exports tend to be commodities or low-tech equipment that can easily be bought in other markets.

The dollar's 10% rise since December will also temporarily depress the value of imports in coming months, since the relative price of imports will decline. But more important, slower consumer spending will limit growth in their actual volume.

Much of the runup in the dollar has reflected political rather than market pressures, particularly uncertainties in Japan and West Germany and turmoil in China. So the dollar's recent strength could prove temporary.

Lately, the dollar has backed down to levels that are less worrisome. It hit nearly 152 yen on June 15, the highest in more than two years, but by June 21 it had receded to just under 143 yen. Most analysts believe that 150 yen is close to the danger zone where the competitiveness of U.S. exports is hurt.

But for now, exports remain the backbone of the factory sector, and slower consumer spending is taking pressure off industrial capacity—and off inflation. That combination will keep this expansion chugging along making investors feel a little more secure.



THE WEEK AHEAD

LEADING INDICATORS

Wednesday, June 28, 8:30 a.m.

The consensus of economists is that the government's composite index of leading indicators fell by about 0.6% in May. Declines in the factory workweek, consumer expectations, and the money supply, plus an increase in the number of new unemployment claims were chiefly responsible for the decrease. These negatives more than offset a gain in stock prices and no change in building permits. A drop in the government's index is also suggested by the weakness in the BUSINESS WEEK leading index in May. The government's index—designed to forecast growth in the economy—increased 0.8% in April but fell in both

February and March. Another decline in May would signal that the economy has shifted into a pattern of slower growth.

NEW SINGLE-FAMILY HOME SALES

Thursday, June 29, 10 a.m.

New single-family homes probably sold at an annual rate of just 610,000 in May, down from April's 620,000 pace. The expected decline is indicated by a 4.6% drop in single-family housing starts and little change in the mortgage rate for new homes in May. The housing sector remains one of the worst performers in the economy this year. New-home sales so far in 1989 are 3% below the same period in 1988. Recent declines in mortgage rates in early June may help future sales, if rates stay below 10%.

FACTORY INVENTORIES

Friday, June 30, 10 a.m.

Most economists expect that manufacturers boosted their inventories by about 0.6% in May, the same pace posted in March and April. Despite 27 consecutive monthly increases, factory stockpiles remain firmly under control. That's because shipments—up 2.4% in April—are still outpacing the inventory buildup. New orders also continue on a strong upward trend. Economists are looking for a 2% increase in new factory bookings in May, led by a healthy gain in durable-goods orders. That's below the April advance of 2.7%, but it means that the manufacturing sector is still a vibrant force in this expansion.

To have uncommon beauty is to run the risk of attracting attention. In the case of the Vanden Plas, the attention it attracts reflects the care Jaguar lavishes on this unusual sedan.

The long, low silhouette and graceful lines of the Jaguar sedan are distinguished by a number of design features unique to the Vanden Plas. Flush wheel-center covers, bright side moldings, an ingenious headlamp washer system and distinctive rear badging identify this car as a very special Jaguar.

But nowhere are Jaguar's uncompromising standards of luxury more eloquently expressed than inside the Vanden Plas. The handcrafted elegance of polished

wood and supple leather abounds. Up to six carefully matched hides are required for each Vanden Plas interior. The power-adjustable front seats incorporate variable lumbar support and temperature controlled heating elements.

The rear seat is comfortably contoured for two passengers and deep fleece rugs cover passenger footwells. Exquisite burl walnut fold-down picnic tables, high intensity reading lamps and individual headrests give rear seat passengers greater comfort than a favorite reading chair.

Revised torque converter specifications and a new final drive ratio make this Vanden Plas one of the quickest Jaguar sedans ever built. For optimum traction and con-

trol, the Vanden Plas is equipped with a limited-slip differential and one of the world's most advanced anti-lock (ABS) braking systems.

If your attention has now been caught by the Jaguar Vanden Plas, we invite you to visit your dealer for a test drive. Ask him about Jaguar's extensive three-year/36,000-mile warranty. He can provide details on this limited warranty, applicable in the USA and Canada, and on Jaguar's uniquely comprehensive Service-On-SiteSM Roadside Assistance Plan. For the name of the dealer nearest you, call toll-free: 1-800-4-JAGUAR.

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Elegance and performance get the Jaguar Vanden Plas noticed—even when you'd rather go unnoticed.



LANDING NORTHWEST

NOW AL CHECCHI HAS TO RUN HIS NEW AIRLINE

Al Checchi is definitely feeling his oats these days. As the victorious bidder for NWA Inc., owner of Northwest Airlines, Checchi has triumphed in one of the most visible takeover fights of the year. And, in all humility, he sees no obstacles in his way.

Will the \$3.65 billion buyout hobble Northwest with too much debt? "If the company never did any better than it's doing right now," he says, "I could service my debt."

Will his relations with Northwest's managers, whom he plans to retain—including Chairman Steven G. Rothmeier—really be as smooth as he promises? "These are Midwesterners, so they tell you what they think, and so far they say that they're with me."

Can Checchi really arrange the hefty bank financing he needs within the 90 days Northwest's board has stipulated? "What do you think this is, amateur night at the Roxy?"

CLOSED DOORS. There's no doubt that in winning Northwest, Checchi has been the consummate professional. Checchi and his partners, Gary L. Wilson, chief financial officer of Walt Disney Co. and Checchi's old boss at Marriott Corp., and Frederic V. Malek, an investment banker and another Marriott alumnus, quietly proposed a friendly buyout of Northwest in late March. Then came offers from Marvin Davis, the Beverly Hills billionaire, financially strapped Pan Am Corp., and MEI Diversified Inc., a snack-food company owned in part by Carl R. Pohlad and Irwin L. Jacobs, the Minneapolis in-

vestors. Throughout the bidding, which was mostly conducted behind closed doors, the ebullient Checchi remained supremely confident.

In the end, Davis, who will probably make \$48 million in the tender offer, bowed out. Pan Am came up dry: Now, Pan Am Chairman Thomas G. Plaskett has to continue his difficult search for a corporate partner that will give his carrier a brighter future.

Plaskett's failed bid sweetens Checchi's victory even more: Pan Am's offer had been anchored by an equity stake from Airlie Group, a partnership that included Sid and Lee Bass and Richard Rainwater, the big-league, secretive Texas investors. Checchi had spent four years working for Rainwater and the Besses, but had a falling out with Rainwater over the importance of his role in the Bass organization.

The idea of buying an airline appealed to Checchi, 41, long before he had to scrap with Pan Am and Davis over Northwest. A native of Wheaton, Md., and a graduate of Harvard business school, Checchi became intrigued by the industry in the late '70s, when he was a financial whiz kid at Marriott, a leading hotel operator and top airline caterer. But Checchi failed to persuade Bill Marriott to invest in the deals just then starting to sweep through the airline business.

It wasn't until early this year, when he was working for himself, that Checchi spotted Northwest. He persuaded Gary Wilson, until recently a board member of Northwest, to put up \$1 million of his



DAVIS BOWED OUT, RICHER



PLASKETT CAME UP EMPTY



money and help him plot a buyout strategy. He won the backing of John D. Elliott, the head of Elders IXL, the Australian brewing company, whom he met at the Calgary Olympics. Elliott has invested \$500 million in Checchi Associates, Checchi's investment firm, which plans to do other deals after Northwest. Checchi persuaded KLM Royal Dutch Airlines, which had thought of supporting Pan Am's bid, to back him instead. In all, Checchi put together \$700 million in common and preferred equity to buy Northwest.

WATCHFUL EYES. Now, Checchi has to run it. First, he must woo the regulators. Transportation Secretary Samuel K. Skinner has served notice that leveraged airline deals will be subject to close scrutiny. Another potential problem: The government may frown on the heavy foreign investment that the combined stakes of Elders and KLM represent.

If he gets that far, Checchi next needs



TRAFFIC ON THE CARRIER'S PACIFIC ROUTES IS BOOMING, AND SERVICE ON "NORTHWORST" IS IMPROVING



ALFRED A. CHECCHI



STEVEN G. ROTHMEIER

'If the company never did any better than it's doing right now,' says Checchi, 'I could service my debt'

to have the unions on his side. So far, the machinists and Checchi's bid acceptable, in part because Brian Freeman, the investment banker for the International Association of Machinists, knows Checchi and Wilson from negotiations in 1984, when Marriott and the Basses tried to buy onrail. "I know them," says Freeman. "They're credible."

The pilots, however, have yet to negotiate a new contract, and they are still at odds with the company over suchorny issues as job security and a lower wage Northwest wants to pay new pilots. Already, the pilots have fretted publicly about the debt Checchi is adding to Northwest's balance sheet. Checchi has pledged not to resort to

massive asset sales, the usual quick fix of a heavily indebted acquirer. Fred Malek, Checchi's partner in the purchase, does admit that Northwest's Tokyo real estate—worth an estimated \$400 million—might be sold. And Malek says Northwest may also resort to selling and

leasing back a large part of its fleet, which is 70% owned by the company. Sale leasebacks on new planes could also be helpful. Northwest has orders and options for 100 Airbus A-320s at an estimated price of just under \$30 million. Today, those A-320s would sell for almost \$40 million.

Checchi has another advantage: The years Northwest has spent integrating Republic into its system, and the money the carrier has put into upgrading service, are now starting to pay off. Traffic on Northwest's Pacific routes is growing 15% annually. Northwest also has the best on-time record of the major airlines, with the exception of a shrunken Eastern. That performance is in sharp contrast to a year and a half ago, when Northwest was coming in dead last in the rankings. Finally, Northwest, whose lackluster service earned it the nickname "Northworst," has started to introduce all the frills, including nice china, fine wine, and extra attendants, in its business and first class to Asia and Europe.

OPENING TO EUROPE. Northwest operating profits ran flat at \$205 million last year, but should hit \$325 million in 1989. Cash flow will probably approach \$600 million—more than enough, for now, to

pay the estimated \$430 million in interest Checchi will owe annually.

So Checchi, provided that his deal is not vetoed by the regulators, stands to enjoy the fruits of Northwest's earlier efforts. He could also pick up more high-fare business travelers by paying even more attention to improving service. And there may be extra profits in a linkup between Northwest's U.S. hubs and KLM's big terminal in Amsterdam.

Of course, much of Northwest's growth depends on the economy. And with fare wars, unpredictable fuel prices and interest rates, not to mention terrorism at 30,000 feet, the airline industry has ways of getting into trouble that Checchi, who has no airline experience and who admits he is no manager, may not foresee. Before his adventure with Northwest is through, Checchi will need more than the instincts of a dealmaker.

By Ronald Grover in Los Angeles and Russell Mitchell in Minneapolis, with Seth Payne in Washington and bureau reports

TIME'S COUNTERATTACK IS DRAWING ACID REVIEWS

The market is cool to its Warner bid—and shareholders are furious



'We're not for sale, haven't been for sale, and don't plan to be for sale'

J. RICHARD MUNRO
CHAIRMAN, TIME INC.

Besieged by Paramount Communications Inc.'s hostile \$10.7 billion takeover bid, Time Inc. is fighting back. The publishing and cable TV company has hatched a scheme to turn itself into an unattractive behemoth and has filed two lawsuits designed to foil the takeover. The actions were bold—and desperate. The company is doing everything possible to avoid a stockholder vote on the \$175-a-share offer by Paramount CEO Martin S. Davis. While Time executives won't concede the point, there's every sign that they would lose.

So on June 16, Time Chief Executive J. Richard Munro and President Nicholas J. Nicholas Jr. unveiled their biggest weapon in the struggle: a plan to buy Warner Communications Inc. for a cool \$14 billion, or \$70 a share. The deal may force Time to raise the entire \$14 billion and could create a company that's too big and debt-laden to interest Davis.

Munro now concedes that the original deal between Time and Warner was unattractive to investors. But the new plan isn't winning any better reviews. The market response, for example, was lukewarm: Warner shares edged up to only 58½ on June 21. And Paramount was

openly scornful. As one high-ranking executive put it: "If Time really felt that they were proposing a better alternative to our offer for their shareholders, why are they trying to end-run a shareholder vote?"

Time's biggest investors, already frustrated by the company's failure to allow a vote on the Paramount bid, are furious. They believe the new Time-Warner deal is nothing but a thinly disguised attempt by management to protect itself and depress the value of Time's stock. "I'm not happy with Time's management. It doesn't care about its shareholders," says Michael F. Price, president of Heine Securities Corp. He and others think Time management should talk to Davis to see if he would improve his offer. Paramount likes that idea, and in a bitterly worded June

20 amendment to a previous complaint asked the Delaware Chancery Court to stop Time's efforts to prevent shareholders from voting on Davis' bid. As it stands, Time's board of directors won't allow a vote at the June 30 shareholders' meeting. Says Munro: "We're not for sale, haven't been for sale, and don't plan to be for sale."

Time has a lot riding on the Delaware case, which rests on a question in takeover law where there are few clear precedents: When is a company up for sale? If the judges say Time put itself on the block on Mar. 4, when it announced its original merger with Warner, the company may be forced to hold an auction in which Davis' bid, and others, would have to be considered (page 27). But such a decision, claim Time executives, would set a dangerous precedent of forcing business to respond to arbitrageurs' short-term interests. "The current system gives an incentive for unproductive activity," says Nicholas.

In addition to defending itself in

Delaware, Time has counterattacked with suits in New York and Connecticut, charging that Paramount's bid is fraudulent. Time claims Davis can't make good on his assurance that he can raise the \$14 billion he would need to buy the company without selling some of Time's assets. "It's our money he's playing with, not his money," says Nicholas. He adds that Time probably wouldn't have to sell assets after buying Warner, but he won't say how he'll manage that feat until he decides the final terms of the deal. Paramount insists it can raise the money and won't have to sell assets.

CATCH-22. Time also claims—not very convincingly—that Paramount is caught in a regulatory catch-22: Davis has no legal standing to ask local regulators to let him run Time's cable franchises until he controls the company, and he won't have total control of the company until he wins the right to those operations. What's more, Time says even if Davis can try to get those properties, it could take a year or more for him to clear regulatory hurdles, which means shareholders wouldn't see a penny until then. Cable brokers say there are few precedents involving a hostile takeover of a cable company, but they don't see this issue as a deal-buster.

The next move? Davis may put the heat on Time's board of directors by boosting his offer. But investors should think carefully before they try to profit from the Great Media War of 1989. This is a takeover battle in which the uncertainties are as big as the players.

By David Lieberman in New York



'I'm not happy with Time's management. It doesn't care about its shareholders'

MICHAEL F. PRICE
PRESIDENT, HEINE SECURITIES CORP.



TAKEOVERS

A LEGAL BATTLE THAT COULD KILL OFF FRIENDLY MERGERS

Does a stock swap like the Time-Warner deal put a company into play?

The Time-Warner-Paramount battle likely won't be decided for weeks.

But when it is, chances are it'll be the Delaware courts that will be doing the deciding. And in the process, the courts probably will set important new ground rules that could forever alter the course of future mergers and takeovers. Says John C. Coffee Jr., a corporate-law expert at Columbia University's Law School: "This will be an important case. It will have a major impact on whether or not people will ever again structure friendly mergers."

The first hearing is set in Delaware Chancery Court for July 11. The key issue, say legal experts, is whether Time-Warner's friendly stock-swap merger was an invitation to bidders that effectively put Time Inc. up for sale. If not, it was Time's counterbid for Warner Communications Inc., which came after Paramount Communications Inc.'s \$175-a-share bid for Time, an unreasonable takeover defense because it outflanked the need for shareholder approval?

PRECEDENT. If it turns out that Time-Warner's proposed stock swap really amounted to a sale, few CEOs will ever again risk entering into a similar arrangement, Coffee and other legal experts predict. Says Robert A. Profusek, Dallas takeover lawyer, "You're not

going to see any of them if Time ends up getting taken over." He notes that one friendly merger he was working on was "put on hold" until the court resolves Time-Warner.

Not surprisingly, Time's lawyers, including Samuel C. Butler of Cravath, Swaine & Moore, argue that "there isn't the slightest basis to say Time put itself up for sale." Paramount attorneys counter that both the initial stock swap and Time's later bid for Warner are, in the words of one lawyer, steps "in a defensive program when the company is for sale."

On June 21, Paramount revised its lawsuit to ask the Delaware court to block Time from going ahead with its \$70-a-share bid for Warner. Paramount had previously failed to get a temporary court order to stop Time and Warner from a "lockup stock swap" under which Time exchanged 11% of its shares for

In one ruling that should aid Paramount, a court found that a 'sale' can even take the form of a defensive 'restructuring'

9.4% of Warner's shares. Paramount's revised lawsuit, which Time says is meritless, asks for the swap to be rescinded.

Intriguingly, no court precedent precisely fits the current situation. The most sweeping decision on auctions followed Ronald O. Perelman's hostile bid for Revlon Inc. In 1986, the Delaware Supreme Court ruled only that once a company is for sale, when "breakup of the company was inevitable," directors have a fiduciary duty to become auctioneers: to consider all relatively similar offers in the shareholders' interest and to get the best price.

REASONABLE RESPONSE? The court also ruled that lockup agreements intended to end an active auction or play favorites would be improper. But this raises the question, legal experts say, of whether Time-Warner's lockup is proper because it was made before Paramount's bid.

Last spring, the Delaware Supreme Court issued another decision, reviewing Macmillan Inc.'s failed efforts to fend off raider Robert Maxwell. The court noted that a "sale" can even take the form of a defensive "restructuring" that transfers voting control. That figures to serve as ammunition for Paramount because the original Time-Warner stock swap would have given Warner's shareholders 60% of the new company's stock.

But, then, there's a crucial footnote: The court added that restructuring to further the corporation's "long-term strategic plans" would weigh against requiring the board to put the company on the auction block. And that could help Time management, which insists that it sought to merge with Warner as part of a global strategy to be more competitive without intending to sell assets.

If the court doesn't find that the Time-Warner stock swap put Time in play, it still must confront a second question: Was Time's \$14 billion offer for Warner a measured and reasonable response to the threat posed by Paramount's hostile bid? One takeover expert believes the court will see Time's move to buy Warner as a second step toward "a carrying out of a previous decision" to merge with Warner. If he is right, then the court may evaluate the reasonableness of Time's decision to take from shareholders a chance to vote on the bid for Warner.

Some of these tough questions may suddenly be rendered moot if, as seems a fair possibility, Paramount raises its bid. Then, independent members of Time's board, who so far have stuck together, may cast aside long-term goals for a price that would be too good for a rational fiduciary to pass up. Regardless of how the deal falls out, the Delaware court will likely provide some new rules for the next megamerger battle.

By Michele B. Galen in New York

HAS LBO FEVER STRUCK EUROPE?

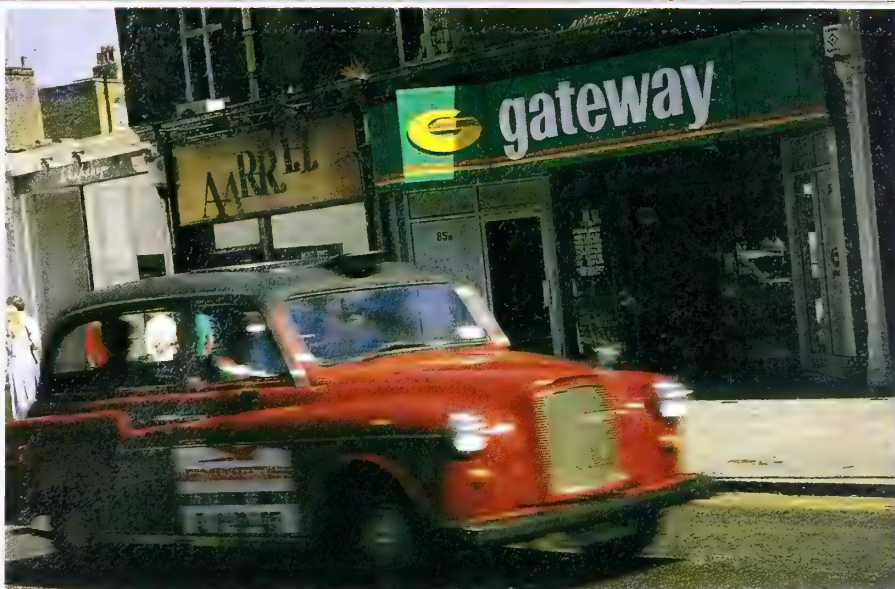
A&P's bid for Gateway looks like the beginning of an outbreak

The plot might easily come from one of Wall Street's buyout sagas: A supermarket chain threatened by a hostile bidder seeks rescue from deal-makers Kohlberg Kravis Roberts & Co. When KKR can't quite deliver, rival Wasserstein, Perella & Co. does the deal, in partnership with Great Atlantic & Pacific Tea Co.

Yet the setting for this latest multi-billion-dollar drama is not New York but London. The friendly \$3 billion bid for Gateway Corp., Britain's third-largest supermarket chain, is the clearest sign yet that the U.S. leveraged buyout craze is spreading across the Atlantic. London branches of U.S. banks and investment houses, eager to move into the world's third-largest equity market, are leading the way. Only \$7.6 billion worth of British LBOs were completed last year, far less than the U.S. figure—\$37.7 billion, according to IDD Information Services. But Gateway represents a quantum leap: It's three times larger than any previous LBO in Britain and the biggest ever in Europe.

Once a highflier called Dee Corp., Gateway attracted unwanted attention by overexpanding at home and paying \$414 million to W. R. Grace Co. in 1986 for Herman's Sporting Goods Inc., a U.S. retail chain that promptly went downhill. Gateway's earnings per share fell 14% in fiscal 1988, and in April, British bank S.G. Warburg & Co. put together a \$2.9 billion breakup bid through a shell company, Isosceles PLC. A tentative white-knight offer by KKR and A&P fell apart when KKR insisted on majority control. Enter Wasserstein Perella, which agreed to a 50-50 split with A&P, whose chairman, James Wood, would become Gateway's chief executive.

Wood, a Briton who turned A&P around through store closures and acquisitions, has similar plans for Gateway. He intends to pay off some of the \$3.4 billion in debt assumed by the partners in the deal by selling some of the chain's 817 supermarkets. He also says his "instinct is to get rid of" the 256 Herman's outlets. According to Wood, Wasserstein will probably bail out in three or four years, and A&P will offer slightly less than 50% of the company to the public.



A LONDON GATEWAY: A&P'S WOOD SAYS HE WOULD CLOSE A NUMBER OF STORES

The Gateway bid represents a big jump across Europe for A&P's 52% majority owner, West Germany's Tengelmann Group. Tengelmann has wanted to expand into other European markets in anticipation of unification in 1992, and A&P control of Gateway would make Tengelmann owner Erivan Haub one of the world's leading food magnates.

'FEEDING FRENZY.' The Gateway deal is likely to encourage more LBOs, but not a flood. The Bank of England has criticized debt-financed deals, and the government has halted several highly leveraged bids to study their financing. British takeover rules discourage speculative deals by requiring bidders to have firm financing in place. In addition, many British investment institutions deplore management-led LBOs because of potential conflicts of interest.

Yet London is awash in funds, and competition for the limited number of

LBOs is so intense that buyout prices are climbing. The interest among British and foreign banks in underwriting the Gateway debt "was like a feeding frenzy," says Robert B. McKeon, head of Wasserstein's merchant banking group. So far, London has lacked the key facility necessary for big LBOs: a junk-bond market to provide long-term financing. But Wasserstein plans to issue \$775 million in Gateway junk bonds and hopes to sell at least half in Britain. McKeon thinks that may help launch a London market in these securities.

Even so, few are betting that Britain will ever be as buyout-mad as the U.S. But the Gateway bid may mark a watershed for a country that so far has been reluctant to copy this most American of financial fashions.

By Mark Maremont with Richard A. Melcher in London, and Stanley Reed in New York

SEMICONDUCTORS

HANDS ACROSS THE CHIPMAKING CHASM

The U.S. and Europe may join forces to loosen Japan's stranglehold

Over the past decade, the U.S. and European electronics industries have watched in frustration as Japan took the lead in commodity semiconductors. It now controls 90% of the world market for advanced memory chips—and that scares computers and chipmakers alike because memory chips are the source of most advances in semiconductor technology.

In a bid to blunt that threat, companies on both sides of the Atlantic are now banding together. On June 21, the U.S. Semiconductor Industry Assn. announced the formation of a new consortium to produce, not just develop, the next generation of dynamic random-access memories (DRAMs). The group, dubbed U.S. Memories Inc., will also work with Sematech, the research con-

ortium that was created in 1987 to develop advanced chipmaking technologies.

Just two days earlier, the European Commission formally approved \$600 million in startup funding for Jessi, short for the Joint European Submicron Silicon program. Jessi is similar to Sematech, but bigger. Plans call for Jessi to run for eight years at a cost of \$4 billion, vs. six years and roughly \$1 billion for Sematech. Like U.S. Memories, Jessi will develop tomorrow's chips, in addition to improved chipmaking methods.

SETTING PRECEDENTS. The new ventures may also allow American and European companies to unite against their Japanese rivals. Even before Jessi got its official blessing from the European Commission, executives from the consortium's three principal backers—Philips, SGS-Thomson, and Siemens—visited Sematech's Austin (Tex.) headquarters seeking cooperation between the two groups.

That would be precedent-setting, since both Jessi and Sematech currently exclude foreign companies. IBM has been lobbying to join Jessi, while the Netherlands' Philips and SGS-Thomson Microelectronics, a French-Italian company, want admittance to Sematech, since both have U.S. semiconductor operations.

Standing in the way is the sticky problem of how to throw open the doors without allowing Japanese companies in. One approach: Granting reciprocal membership in Jessi to a few Sematech members, and vice versa. Although that would require governmental approvals, European executives seem amenable. "I could be glad to welcome a company like IBM into Jessi if we were welcomed to Sematech," says Pasquale Pistorio, president of SGS-Thomson.

There's no foreign role envisioned, but the new DRAM venture is also designed to strengthen America's competitive stance internationally. U.S. Memories is an alliance of three computer companies and four chip suppliers: IBM, Digital Equipment, and Hewlett-Packard, plus Intel, National Semiconductor, Advanced Micro Devices, and LSI Logic. The group will be run by Sanford L. Kane, a former IBM vice-president. He plans to raise \$1 billion in private capital and begin turning out 4-megabit DRAM chips by early 1991, using designs and production methods licensed from IBM.

Kane argues that IBM's involvement, and its technology, means that his outfit fights "with a lot more strength." He adds: "The intent is for this company to be a definite player in both the U.S. and the world market." That could be—but a true test of the value of such industrial alliances lies some years ahead.

By Otis Port in New York, with Thane Peterson in Paris and Robert D. Hof in San Francisco

THE LAW

DROPPING A BOMB ON 'RADIOACTIVE JUNKYARDS'

Private contractors may be liable for hazards at weapons plants

The ongoing scandal over the nation's nuclear weapons production complex reveals how a build-first-at-any-cost attitude has created a nightmare of hazardous emissions and contamination. Only now are the liabilities of that approach emerging. On June 15, eight jurors in Cincinnati decided that U.S. Energy Dept. contractor NLO Inc. had endangered the mental health of its neighbors in nearby Fernald and devalued their property by releasing 393,000 pounds of uranium byproducts and other hazardous stuff into the air.

The jury's decision isn't binding and

federal agents descended on Energy's Rocky Flats plant outside Denver to gather evidence in a criminal investigation that is focusing on allegations of illegal dumping of hazardous waste. The probe raises the question of whether Rocky Flats, too, could be a candidate for a Fernald-like suit. The answer: very probably. Says Dan W. Reicher, senior attorney for the Natural Resources Defense Council: "It is likely there will be similar attempts on the part of citizens living around these plants."

In Fernald, located about 20 miles northwest of Cincinnati, the 14,000 resi-



ROCKY FLATS: THE FEDS ARE LOOKING FOR EVIDENCE OF ILLEGAL DUMPING OF TOXIC WASTES

won't set a formal judicial precedent. Reached in a summary trial—a short-form judicial proceeding designed to encourage settlements—this verdict gives the parties a preview of what a jury at a full trial might decide. Yet the importance of the exercise is clear: Despite the government's attempt to shield NLO, a unit of NL Industries, the company was found liable for \$136 million in damages. Robert B. Weidner, NLO's manager, refused to comment. But even as the trial began, Energy Dept. Deputy General Counsel Henry A. Gill Jr. conceded that the case "has a potential impact across our network of facilities." Gill said the government, which handled the case on behalf of NLO, hasn't decided yet whether to settle or go to trial.

Just a day after the trial started, 75

dents living within five miles of the plant sought damages for the unknown health threats and the harm done to their property values. With videotapes, charts, and internal company documents, plaintiff lawyer Stanley M. Chesley painted a picture of a "radioactive junkyard" that contaminated its neighbors. NLO documents that Chesley produced in court showed that, on one occasion in 1966, 3,844 pounds of dangerous uranium gas were released within 20 minutes.

Gill maintained that there's no proof of property damage or of anyone being hurt mentally or physically. Further, for some 34 years, "no one in authority ever told NLO they weren't doing a good job," Gill said. So the government, he argued, was the party that should logically be sued. Since the government is immune

to such suits, his argument effectively ruled out any chance of recovery by the plaintiffs.

The jury didn't buy Gill's line. They found that NLO had violated state and federal emissions laws and in doing so had stripped away all federal contractor immunity. Because the Energy Dept. had indemnified NLO under its contract, the government would pay the damages: \$80 million for medical monitoring of the residents, \$1 million for property devaluation, and \$55 million in punitive damages.

NO EXIT. So far, no one has picked up on the Fernald verdict as a reason to rush to court. That may change. At Rocky Flats, the U.S. criminal investigation is looking into charges that management concealed improper storage and dumping of waste. Two existing Sierra Club lawsuits demand that the plant's plutonium operations be subject to more stringent rules. But amid a ground swell of outrage over the past couple of weeks, a class action in the Fernald mold is also a possibility. "It's a viable way to make change," observes Margaret L. Fox, Southwest regional director of the Sierra Club. "People are going to be looking for tools to deal with [Rocky Flats]. People are angry, and they're very frightened."

Rocky Flats contractor Rockwell International Corp. is feeling the heat from all sides. Some payments from the government for the operation of the facility have been held up as the Justice Dept. continues the investigation. What's more, some shareholders are including the company's conduct at Rocky Flats in a lawsuit to be filed any day against the officers and board of directors, according to shareholder attorney William S. Lerach. Rockwell confirms that the Energy Dept. is halting some payments, which total more than \$4 million, but the company won't comment on the Fernald decision or its possible effect on Rocky Flats.

Ironically, the Energy Dept. now acknowledges that Rocky Flats' production-first mentality must change. As he asked Rockwell to come up with a plan to address "management shortcomings" and to "adhere to a new culture of professionalism," Energy Secretary James D. Watkins confessed he was "not at all satisfied with the Dept. of Energy's performance in carrying out its oversight responsibilities" there. The plant, he said, won't produce if it can't produce safely. But it figures to be some time before the government and its contractors escape the costs of its old attitude.

By Maria Mallory in Cincinnati, with Sandra Atchison in Denver and bureau reports

SAVINGS & LOAN

THE S&Ls' LAST STAND AGAINST CONGRESS

The thrift lobby prepares for a final battle over capital requirements

For a few suspenseful days, the President's savings-and-loan rescue bill seemed on the verge of suffering a crippling blow in the House of Representatives. Industry lobbyists were apparently winning massive Republican defections to support an amendment weakening the measure's requirements on S&L capital. But when the vote came on June 15, it was the industry that went down in flames. The amendment offered by Representative Henry J. Hyde (R-Ill.) was defeated 326-94, and the bill had leapt its biggest hurdle.

The S&L lobby hasn't given up. The upcoming House-Senate conference represents its last chance to shape the rescue package, and it will take a few carefully chosen shots. Lobbyists will try to soften capital requirements, lengthen the time that S&Ls can count as capital a vaporous bit of accounting known as "supervisory goodwill," and try to kill some restrictions on thrift investments.

Warns Assistant Treasury Secretary David W. Mullins Jr.: "We can't relax until the ink on the President's signature is dry."

But the turnaround in the House bodes ill for the S&L lobby's chance. Supporters of the legislation have apparently learned to be wary of a lobby that they thought would long since have been crippled by some of its members' histories of fraud and skulduggery.

'FEAR OF SCANDAL.' In fact, the bill never came as close to the brink as White House officials had feared. Lawmakers realized that any weakening of capital rules would only set the stage for the next S&L crisis. Says one senior Administration official: "People underestimated the extent to which the fear of scandal was building."

The White House's case of nerves over the bill's fate had a salutary effect, though, by spurring Bush to become personally involved. The tide turned

when Bush was able to prevail on House Minority Leader Robert H. Michel (R-Ill.) from going over to the other side. That enabled the White House to use the House GOP whip organization to keep the troops in line.

Industry efforts to recoup at the conference will turn on some highly technical issues. Both the Administration and congressional Democratic leaders believe that stiffer capital standards will help prevent another S&L scandal. Only if thrift owners have their own money at stake, they argue, can managers be counted on to avoid reckless ventures.

Both the House and Senate bills limit the ability of thrifts to boost their capital through a variety of accounting devices. One conference fight is sure to come over the \$20 billion in supervisory goodwill carried on the books of about 700 thrifts. Goodwill normally represents a premium paid over the book value of an acquired company. In its struggle to sell off insolvent thrifts in the early 1980s, the Federal Savings & Loan Insurance Corp., unable to assist acquirers with real cash, allowed them to use a formula



ROBERTS: "YOU DON'T QUIT JUST BECAUSE OF A VOTE BY [SOME] CONGRESSMEN"

of imaginary capital as goodwill. In some cases, such goodwill far exceeds the S&L's tangible assets.

The House bill would only permit the use of such goodwill as capital until 1995. Without it, many of the acquirers will not meet new capital rules. Not surprisingly, lobbyists will fight for adoption of the Senate version, which allows goodwill to be used for 25 years. "You don't quit just because of a vote by congressmen who don't understand accounting," says Theodore H. Roberts, chairman of Chicago-based Talman Home Federal Savings & Loan Assn., a thrift that is especially dependent on goodwill. In the battle to shape the final bill, individual S&Ls will use close ties with

hometown lawmakers to try to win specific exemptions. Shaky S&Ls will focus on fighting capital rules, while healthier thrifts will work to make sure that they can invest outside the increasingly unprofitable mortgage business. Both the House and Senate bills require that thrifts use most of their assets for home and consumer lending and restrict investment in risky areas.

Meanwhile, one issue that had divided the Administration from congressional Democrats is fading. Treasury Secretary Nicholas F. Brady has long said that he would recommend a veto of the bill if borrowing for the thrift deposit-insurance fund is counted as a budget expenditure. But now that Congress is draw-

ing the line on capital, the White House may back down from the threat. "The better the legislation is as a whole, the less likely there will be a veto," says White House aide Richard C. Breeden.

For a Congress that has been trying to come to grips with the S&L industry's deepening crisis since 1982, the struggle may finally be nearly over. "In the end, the legislation will produce a stronger and safer industry," says Senate Banking Committee Chairman Donald W. Riegle (D-Mich.). But the thrift lobby still has one fight left in it, and no one is quite ready to declare the battle won.

By Catherine Yang, with Douglas Harbrecht and Howard Gleckman, in Washington

CAPITOL HILL

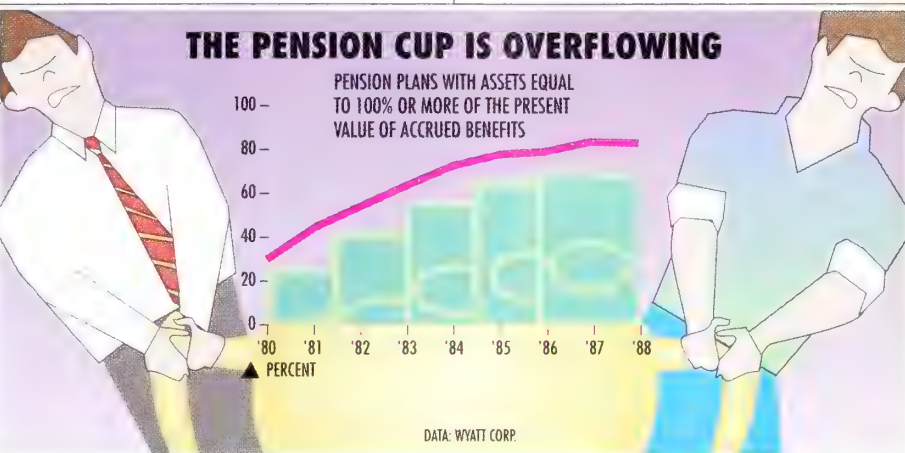
THE FURY OVER PENSION FUNDS

In response, Congress may make it tougher to terminate plans

When it comes to do-good operations, the American Red Cross is hard to beat. But some of its 2,000 retirees wish it would be more charitable toward them. Last November, the Red Cross announced it would terminate its \$730 million pension plan and divert part of the \$400 million surplus to ongoing operations such as disaster relief. "They don't have any right to set aside this money for other uses," complains retiree Philip V. Gaddis, a former disaster information officer.

In fact, the American Red Cross has every right to take the cash—and part of the money will be set aside to give current retirees improved benefits. Since 1980, nearly 1,900 employers, including such giants as Exxon Corp. and United Air Lines Inc., have siphoned off \$20 billion in pension assets that exceed the amount needed to fund current pension obligations. Some 600 more companies await government approval.

Now, pensioners are fighting back. Retirees and labor unions are backing legislation sponsored by Senator Howard M. Metzenbaum (D-Ohio) and Representative William L. Clay (D-Mo.) that would make it much harder for employers to engineer such pension "reversions." The lawmakers complain that too much of the money is being used for financial wheeling and dealing. A study by the American Association of Retired Persons of large pension reversions from 1985 to 1988 found that 86% of the companies were involved in merger activity. "Workers are being left at the bottom of the pile, while billions of dol-



lars are being skimmed by LBOs, mergers, and takeovers," Metzenbaum says.

Critics of reversions may soon get help from an unexpected source—the Bush Administration. Within weeks, the Labor Dept. is expected to make its own proposal, probably recommending new curbs on reversions. Parts of the Metzenbaum bill "are attractive," says a Labor Dept. official—a Republican change of heart that worries business.

Defined-benefit pension plans, which promise specified monthly payments at retirement, became a hot source of cash in the 1980s as the bull market swelled pension coffers. Surpluses soared 80%, to \$190 billion, from 1984 to 1987. And many conservative pension managers sock away enough tax-deferred money early in an employee's career to meet their huge retirement liabilities. By terminating plans early, companies are obligated to pay workers only what they have accrued when the plan is shut down—not what they would have gotten after years of service at higher pay.

SHORTCHANGED? Labor groups complain that reversions lead to huge declines in expected retirement income for current workers. According to Pension Benefit Guaranty Corp., more than half of the companies that took reversions either replaced their pension funds with less generous plans or with no plan at all. Retir-

ees forgo virtually any chance of cost-of-living increases when a company pays off its existing obligations by purchasing annuities. And, says AFL-CIO benefit specialist Meredith A. Miller, "we're worried about the financial condition of some of the insurance companies that sell these annuities." The federal PBGC insures pension plans but not annuities.

The legislation would require all companies to provide replacement plans that have enough money to meet both current and projected obligations. Companies also would have to provide onetime inflation adjustments to current retirees—a benefit that companies give only voluntarily now. "This creates a whole new set of mandated benefits," grumbles Mark J. Ugoretz, executive director of the ERISA Industry Committee.

Business executives also argue that the limits could backfire. They contend that controls on recouping excess funds would encourage employers to restrict contributions to their plans. And employers put off by new rules may decide not to offer pension plans at all.

Metzenbaum is known for quixotic legislative forays. But if he gets a boost from the Bush Administration, business' freedom to call excess pension money its own will almost certainly be reduced.

By Susan B. Garland, with Douglas Harbrecht, in Washington

LABOR

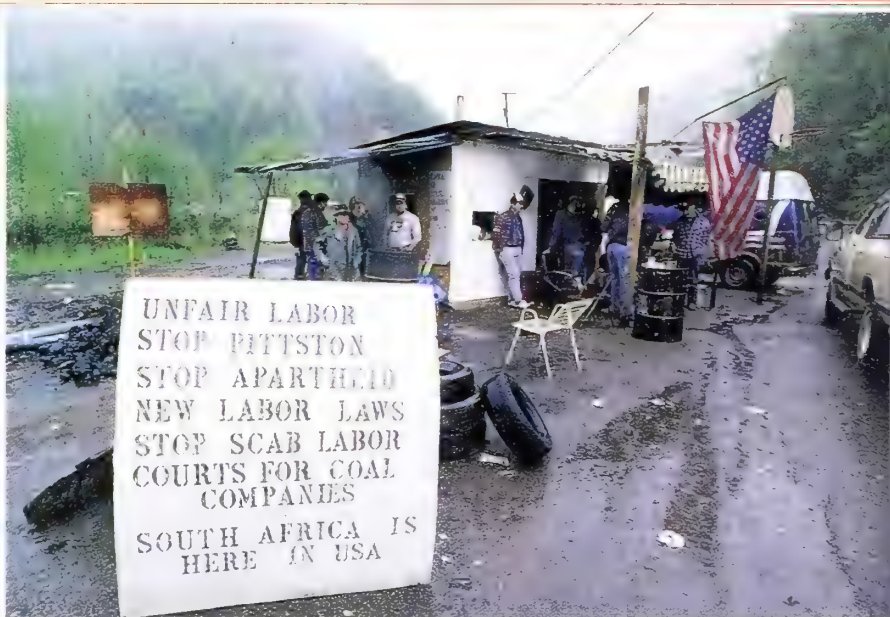
TWILIGHT FOR THE UMW?

Miners' wildcat strikes may further erode the union's power

As illegal wildcat strikes spread to mines in nine states, coal producers had one question: Why? Under the direction of United Mine Workers President Richard L. Trumka, the industry's last two contracts were settled without strikes, including the current pact, which doesn't expire until 1992. Now, the stability the industry earned from labor peace is threatened. "It doesn't make sense," says one coal executive. "The union is shooting itself in the feet with an Uzi."

The walkouts have been triggered by the United Mine Workers' angry 11-week strike against Pittston Co.'s Virginia-based coal unit. Pittston, which is no longer a member of the industry's bargaining group, the Bituminous Coal Operators Assn., is demanding steep concessions. If the union yields to Pittston's requests for mandatory overtime, reduced pensions, and Sunday work, miners believe other producers will demand similar agreements. In the past two weeks, nearly 30,000 miners walked off their jobs at scores of mines in support of the 1,800 Pittston strikers.

BACKFIRE? For miners, the Pittston strike has become a symbol of the union's fight for survival. High labor costs and overexpansion spurred by 1970s oil shortages have prompted many companies to cut costs by installing labor-saving machinery and setting up



A SHELTER ON THE PICKET LINE AT PITSTON: THE MINERS' DEFIANCE COULD BACKFIRE

nonunion subsidiaries. Scores of small mines have shut down. So now, the UMW controls only about a third of the soft, or bituminous, coal mined, vs. nearly 50% a decade ago. Says Larry Bartram, president of Local 5958 at Rock Run Mining Co. in West Virginia: "We either win this battle or we go down the tubes."

But the miners' defiance may backfire. More than 30 companies in West Virginia alone have gone to court seeking injunctions and damages. Because of the illegal strikes, which aren't officially sanctioned by the UMW, the union faces millions in fines. What's more, disruptive and costly to producers as the wildcat strikes are, coal users don't expect to have problems finding other supplies.

Producers believe the action may prompt big coal customers, including electric utilities, to buy more coal from

nonunion mines. Rochester & Pittsburgh Coal Co. maintains that the strikes have hurt current talks with two of its utility customers. Even if the wildcatters return to work, says Bobby R. Brown, chief executive of Du Pont Co.'s Consolidation Coal Co., "we're set back a number of years in being recognized as completely stable source."

Company executives fear the strike have escalated to where Trumka may no longer be able to control his rank and file. Neither Trumka nor other UMW officials were available for comment, but so far, many miners are ignoring telegrams from the union's Washington headquarters urging them to return to work. "This is Armageddon," observes a coal executive. "This is the last great battle for the international union."

By Michael Schroeder in Pittsburgh

A STUNNING BLOW TO COOPERATION AT NATIONAL STEEL

When National Steel Corp. signed its Japanese-style labor pact just three years ago, it was hailed as a milestone in U.S. labor management. Shedding decades of adversarial union relations, NSC and its joint venture partner, Japan's Nippon Kokan steel, gave workers unprecedented job security and a big voice in management decisions.

But rank and filers' rejection of a new, 50-month pact on June 19 has

dealt NSC and the budding hopes for U.S. labor cooperation a big setback. Not only did the new pact contain nearly all of the past contracts' cooperative clauses, but it also gave workers an 18% boost in hourly wages and benefits, the first wage hikes since 1983. NSC executives and top leaders at the United Steelworkers, who had approved the tentative pact, were stunned when workers said that raises weren't enough. "There's a great chance of a work stoppage," laments Buddy W. Davis, a top USW official. "We may be seeing the last rites said over effective labor-management cooperation at National."

The dispute shows just how far U.S. industry has to go in forging partnerships with labor. And it comes when

United Auto Workers dissidents pressed UAW leaders at their June meeting to end such efforts. "Union and management are seeking cooperation but without agreeing on common objectives," says Ben Fischer, a Carnegie Mellon University labor expert.

At NSC, the USW has thwarted company efforts to slash jobs by 30% through attrition and job combinations, both legal under the contract. Now, if workers won't reconsider their vote the least profitable big U.S. producer faces a grim choice: a strike or a fatter contract—which even top USW leaders admit NSC can't afford. Either way says Richard P. Coffee, NSC's top negotiator, the dispute will leave scars that won't go away soon.

By Gregory L. Miles in Pittsburgh

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PLANNED PARENTHOOD DIDN'T PLAN ON THIS

Abortion foes are attacking the agency's corporate sponsors

Big corporations enjoy controversy about as much as they like a pan from a top Wall Street analyst. And now executives have a new reason to squirm: Companies that donate to Planned Parenthood, the nation's best-known advocate of abortion rights, have become targets of campaigns by pro-life groups.

Inundated by letters and calls from vocal, well-organized abortion foes, several companies have cut off contributions to Planned Parenthood. J. C. Penney Co. stopped giving in 1988, when it moved from New York to Dallas. Robin M. Caldwell, manager of corporate contributions, says that "as long as Planned Parenthood supports abortion, we won't support them, because the country is too torn up about it right now." The divisions have grown sharper—and the heat on corporations more intense—as the U.S. Supreme Court nears a decision that could overturn or narrow *Roe v. Wade*, the 1973 ruling that legalized abortion nationwide.

'VITAL NEED.' The vast majority of Planned Parenthood's corporate sponsors plan to continue their funding. Still, though corporate grants account for just 1.5% of Planned Parenthood's \$65 million overall fund-raising budget, they're now only half what they were in the 1970s, says Peter T. Wilderotter, Planned Parenthood's vice-president for resources. His complaint: Companies that knuckle under to pressure from antiabortion groups suffer from "corporate cowardice."

Faye Wattleton, president of Planned Parenthood, is confident that most companies will not bow to outside pressure to change their philanthropic policies. She and other Planned Parenthood executives are frustrated that antiabortion forces define the organization as just an abortion-advocacy group. Wattleton says that Planned Parenthood will continue to offer family-planning services that reduce the need for abortion, which

is "an alternative that should be available to all women." Out of 2.5 million clients a year, fewer than 100,000, or 4%, are abortion patients, she says. Most resources support such programs as counseling, education, prenatal care for low-income families, and contraceptive research.

It's that work, not abortion, that corporations emphasize when defending their donations. Last year, BP America



WATTLETON OF PLANNED PARENTHOOD: THE FOCUS IS ON EDUCATION

Inc. donated \$35,000 in a three-year grant to Planned Parenthood of Cleveland. A spokesman said that the three Cleveland clinics "meet a vital need in helping to minimize the problem of teen pregnancy through education." BP America's chief executive, James H. Ross, also has helped bring together Cleveland's corporate leaders for Planned Parenthood's local capital campaign.

Pillsbury Co. takes a similar tack. Minnesota Planned Parenthood, through education and health care services, has

done "an excellent job of helping low income women achieve self-sufficiency by controlling their reproductive choices," says a company spokeswoman. The company has been under constant attack from pro-lifers since the American Life League organized a boycott in 1985 against Minnesota businesses that had a history of giving to Planned Parenthood. The spokeswoman, who because of the controversy refused to be quoted by name, says that Pillsbury has received more than 5,000 letters from pro-lifers since then. A related boycott has had no noticeable impact on profits, she says, but the letters and calls are "continuing annoyance."

EVENHANDED AID. Being known as an aggressive critic is a badge of honor at the Right to Life Committee, American Life League, and Christian Action Council,

whose members target companies that sponsor Planned Parenthood. Doug Scott, director of public policy at the Christian Action Council in Falls Church, Va., which publishes a newsletter that lists such companies and their addresses and products, concedes that a boycott's impact is more symbolic than economic. But abortion opponents, he says, have a moral duty to oppose organizations that are "antichild and antifamily." Further, he contends, companies that support Planned Parenthood are engaged in "bad business, because it eliminates their future markets."

Scott takes credit for Union Pacific Corp.'s recent decision to stop giving \$10,000 yearly to Planned Parenthood and its New York City affiliate. But Charles N. Olsen, head of the company's foundation, maintains that UP stopped funding "in response to comment from stockholders and other individuals."

Another way to dodge the flak is to spread money around strategically. Besides giving a total of \$444,000 to local and national branches of Planned Parenthood since 1981, Gannett Foundation, which is affiliated with Gannett Co., also donates to church programs and other antiabortion groups. Calvin Mayne, vice-president for grant administration at Gannett, says the foundation doesn't want to be branded as a partisan on either side of the issue. "No CEO is comfortable with letters saying: 'You're murdering babies.'"

By Barbara Tierney in New York

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THE FED'S HELLER PACKS HIS BAGS

► On July 31, Federal Reserve Governor H. Robert Heller will leave the Fed to become executive vice-president of Visa International. Based in San Mateo, Calif., he'll oversee government relations, economic forecasting, and risk analysis for the bank-card issuer's worldwide operations.

Although he's been on the Fed Board for less than three years, the German-born economist started thinking about leaving in February, when Congress turned down a pay increase for top federal officials for the second year running. Heller's departure took the White House by surprise, but whomever President Bush picks as his first Fed appointee, monetary policy isn't likely to change. Heller has been an inflation "dove," pushing for lower interest rates after more than a year of tighter and tighter money.

BANNER PLANS A SLIMMER FAIRCHILD

► On June 19, Banner Industries completed its \$265 million purchase of Fairchild Industries in Chantilly, Va. Banner, a Cleveland-based maker of fasteners, plans to trim its new acquisition. Fairchild's space and defense electronics unit, which accounted for 37% of sales last year, will be sold to France's Matra for about \$245 million. That will leave just a handful of businesses—aerospace fasteners, specialized industrial products, and a small communications-services unit.

MALL-MAKER HERSCU: FEELING A BIT MAULED

► When Australian real estate developer George Herscu began building shopping malls in the U.S. three years ago, even his staunchest supporters knew he stood a strong

chance of losing his shirt. After all, the domestic landscape was already overflowing with shopping centers.

Now, the shirt is getting a bit ragged. After a two-month slide, Herscu's Hooker Corp. admitted on June 19 that it was suffering a "short-term liquidity problem" and was asking its bankers to maintain its credit lines. The company also announced plans to sell 50% of its holdings in B. Altman and Bonwit Teller. And it reiterated that it was trying to unload its three biggest malls and find a partner to help build new ones.

MORE FORDS WILL BE 'IMPORTS'

► Ford is taking advantage of a quirk in the federal fuel economy law to boost the "official" average gas mileage of its cars. Current regulations separate imports from domestic models and require that each fleet average 27.5 miles per gallon in 1990, up from 26.5 this year. But imports are defined as any car assembled from 25% or more foreign-made parts.

So, to prevent strong demand for big cars from pushing its domestic fleet below the standard, Ford plans to use enough foreign parts in its gas-guzzling Crown Victoria and Mercury Grand Marquis models to get them

HAPPY FAXER'S DAY TO ONE AND ALL

So you think American ingenuity is dead? Move over Japan, because Argus Communications greeting-card creator Ross Bennett says we ain't washed up yet. In late June, Argus plans to cash in on faxmania by introducing a line of faxable greeting cards. The 8½-by-11-inch sheets feature artwork and messages tackling subjects ranging from birthdays to receivables. Check out this ditty: "Your bill is due/Here's cost and tax/Please pay by check/and not by fax."

Bennett thinks America's 10 million fax users will jump to buy the \$2.99 Fax Pax. The man who introduced the U.S. talking cards in 1984 hopes to generate excitement about the line by paying customers \$25 for submitted fax puns that end up in a Fax Pax. He doesn't expect to make a fortune, though. "The smart guy will buy a pack and make copies," he says. Now that's American ingenuity.



reclassified as imports. Ironically, this means the loss of several hundred jobs for U.S. auto workers—jobs the law's domestic-content provision was designed to protect.

HEY, BUDDY—WANNA BUY A KILLER WHALE?

► Shamu the Killer Whale is looking for a new owner. On June 20, Harcourt Brace Jovanovich put its six theme parks, including its Sea Worlds, and excess land on the block. The \$1.2 billion Orlando-based company had been carrying \$2 billion-plus

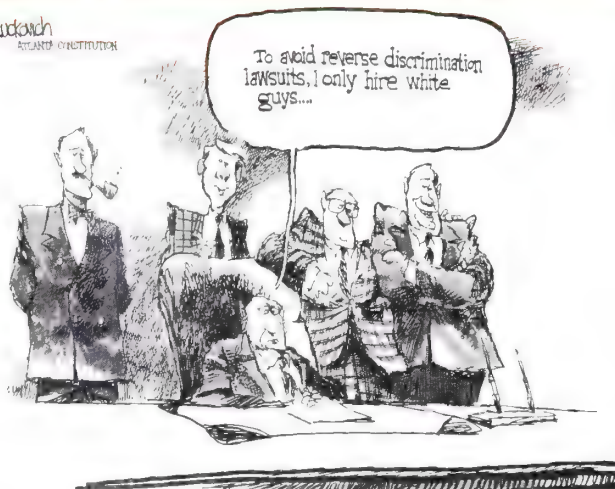
in debt since a 1987 recapitalization, and the burden was hampering expansion plans in publishing.

Analysts estimate that the four Sea Worlds—in Florida, California, Texas, and Ohio—and two other central Florida parks, Cypress Gardens and Boardwalk & Baseball, could fetch \$1.5 billion or more. He also said that President Ralph Caulo would oversee the sale and may manage the park under new ownership.

A SPILL-CLEANUP PLAN WITH A FEW LEAKS

► On June 19, the American Petroleum Institute unveiled a plan for emergency cleanups of oil spills. But the five-year, \$250 million program came under instant fire from both government officials and environmentalists. Transportation Dept. officials worry that the plan's dependence on the Coast Guard to manage cleanups raises questions about the government's potential legal liability. And environmentalists, blasting the plan's failure to guarantee that all spills would be cleaned up, demanded a ban on shipments of crude oil through some environmentally sensitive areas.

MIKE LUDWICH
ARTIST: INSTITUTION



WHAT REAGAN HATH WROUGHT S BEDEVILING BUSH

These are bittersweet times for George Bush. On the strength of his bravura performance at the recent NATO summit and his sure handling of the China crisis, the president's image as a world leader has undergone a radical revision—for the better. But Bush can't pause to savor his foreign triumphs. On the domestic front, some rancid legacies of the Reagan era have suddenly erupted into nasty political controversies. The result: Bush has been diverted from his own agenda by the need to clean up the festering problems of the Reagan years.

More than ever, Washington these days could be dubbed Scandal City. Justice Dept. and congressional investigations of Reagan's Housing & Urban Development Dept. are turning up evidence of widespread graft and influence peddling. The controversy over the costly cleanup of nuclear weapons facilities has taken an ugly turn with reports that the Federal Bureau of Investigation has uncovered massive dumping of toxic waste at the government's Rocky Flats (Colo.) plant. Then there's the savings and loan mess, a coast-to-coast catastrophe that the Reaganites successfully ignored. Bush has been forced to come up with a \$10 billion rescue plan—and has had to expend much political energy to keep legislation moving.

'POOPER-SCOOPING.' With so many leftover problems, the natural tendency of a new Administration is to point an accusing finger at its predecessor. For Bush, who has taken great pains to prove his fealty to Ronald Reagan, that's not an attractive option. Bush has dealt with this dilemma in typical fashion: He has avoided criticizing the Gipper. But that hasn't prevented his Bush aides from lamenting that they wouldn't have to spend so much time on shovel brigade if it weren't for what's his name—you know, the old guy who used to snooze in the Oval Office.

Indeed, the Bush crew has a name for dealing with Reagan-era problems: "pooper-scooping." But singling out Reagan by name remains taboo. "They're subtly blaming the Reagan

Administration without blaming Reagan," says Stephen J. Wayne, a political scientist at George Washington University.

But blaming the other guy, however discreetly, will only take Bush so far. Consider the deepening scandal at HUD. Investigators believe that under former Secretary Samuel R. Pierce Jr., the agency was so poorly managed that employees and contractors could skim millions from housing programs and that HUD contracts were steered through well-connected Republican pals.

At first, new HUD Chief Jack F. Kemp was praised for trying to halt the questionable practices quickly. "It's cleaned up," he announced a month ago. But the revelations may continue for months—and politicians close to Bush are being drawn into the quagmire. According to a House Government Operations subcommittee, Frederick M. Bush (no relation), one of the President's top campaign fundraisers, received a \$268,000 "technical assistance" grant from HUD. Charles Black, a top Bush campaign operative and a former political adviser to Kemp, collected \$326,000 for helping a New Jersey development obtain rent subsidies.

Republicans are struggling to put the best face on the HUD mess and other inherited problems. "It highlights the President's war on the sleaze culture," says a GOP strategist. "They're opportunities for Bush to put his own stamp on his Administration," adds adviser Robert Teeter.

But as time goes on, these unpleasant legacies increasingly will become a burden to the Bush Administration. The S&L fiasco and the nuclear waste cleanup will take a big bite out of future budgets, robbing Bush of the funds he needs for education, environmental protection, and the drug war. Says one reflective Bush insider: "You've got to spend some portion of your time cleaning up after the last guy." But he adds: "You have to do it fairly fast, because if you get too far into your Administration, his problems become your problems."

By Richard Fly, with Douglas A. Harbrecht



KEMP: HOBBOLED AT HUD

CAPITAL WRAPUP

CONGRESS

The desire of frustrated Republican House members to move up or out is dampening GOP hopes of narrowing the Democratic majority in 1990. Party strategists fear an unusual number of retirements next year will give Democrats a shot at open seats. Moves to close a loophole that allows members elected before 1980 to keep leftover campaign funds for personal use could drive out some veterans, including Minority Leader Robert H. Michel (R-Ill.). Meanwhile, a half-dozen GOP House members are readying Senate bids. Among the races shaping up: Claudine Schneider plans to challenge Claiborne

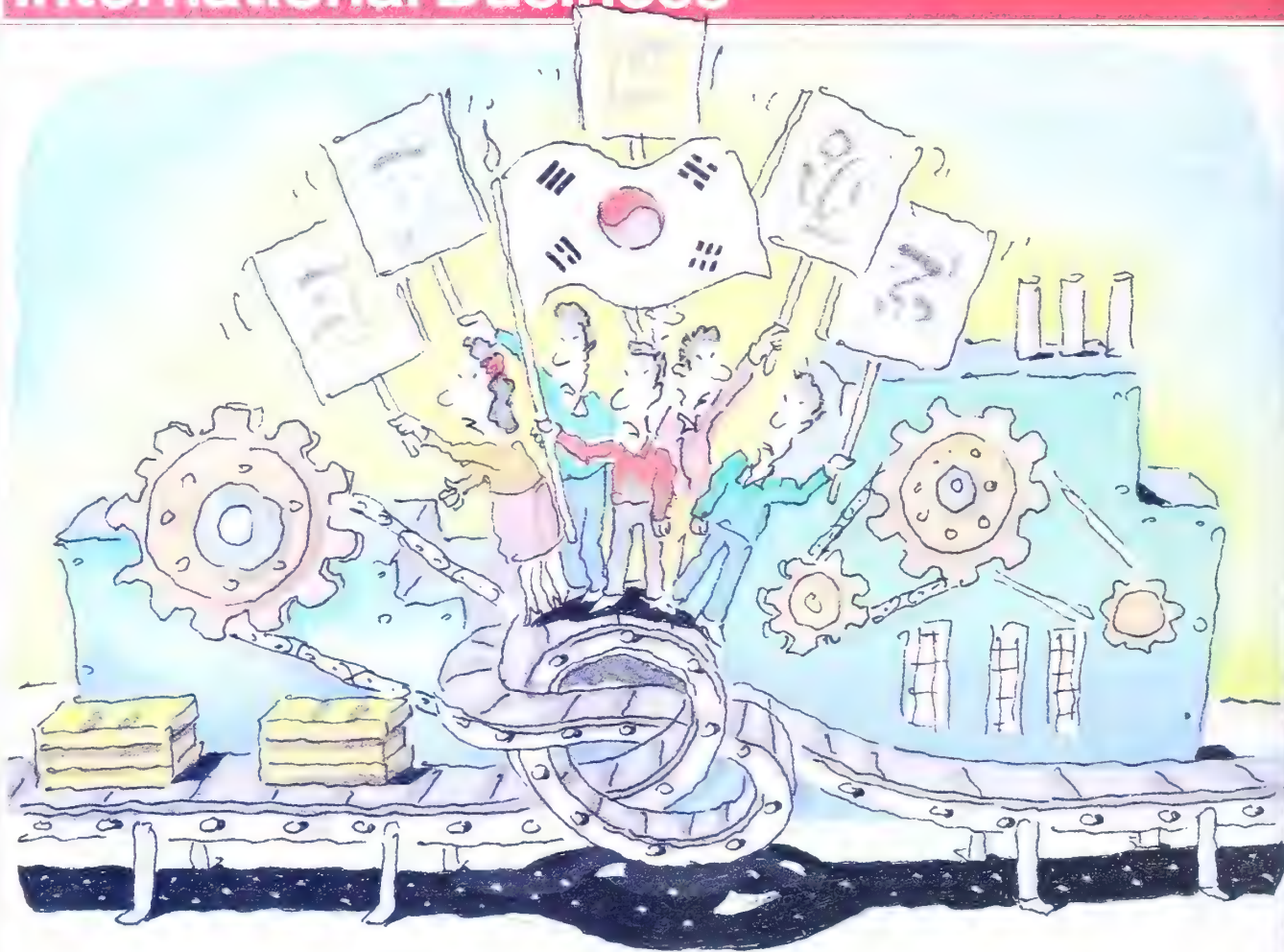
Pell in Rhode Island; Bill Schuette will go after Carl Levin in Michigan; Thomas J. Tauke will take on Tom Harkin in Iowa; and Hank Brown plans to run for the Colorado seat being vacated by Republican William L. Armstrong.

DEFENSE

A good Pentagon procurement chief is hard to find. Defense Secretary Richard B. Cheney is finding that many candidates for Under Secretary for acquisitions want to stay in the private sector. And Pentagon insiders say the acting procurement czar, Army Under Secretary Michael P. W. Stone, has told associates he hopes to win the vacant post of Army Secretary.

FLORIDA

The fight for the seat left vacant by the death of Representative Claude D. Pepper (D-Fla.) is turning into a bipartisan donnybrook. The growing number of conservative Cuban-Americans in the district, which comprises Miami, Miami Beach, and other suburbs, has raised GOP hopes. So has the decision of Democratic State Senator Jack D. Gordon not to run. Democratic leaders are uniting behind Miami City Commissioner Rosario Kennedy, who declared her candidacy just before the June 20 deadline. But with 4 Republicans and 12 Democrats in an Aug. 1 primary, the race is wide open.



SOUTH KOREA

HAS THE KOREAN MIRACLE RUN OUT OF MAGIC?

A soaring won, strikes, wage hikes, and high interest rates have the economy in turmoil

For years, the Daewoo Group's shipyard near Pusan symbolized South Korean industrial might. The efficient, hard-working Korean shipbuilders wiped out competitors from Barcelona to Yokohama. But today, Daewoo is wrestling with a decision over whether to close Korea's most modern yard. Labor costs and the value of the Korean currency have exploded. Labor strife, including the self-immolation of two workers, has plunged Daewoo Shipbuilding & Heavy Machinery into bitter confrontation. The government is insisting that workers accept a wage freeze before helping bail the company out—a demand rejected by radical union leaders.

The remarkable reversal of fortunes at Daewoo Shipbuilding is an acute example of ills that now affect all of Korea. The soaring won, massive wage hikes, high interest rates, and costly strikes are gumming up Korea's export machine, the nation's main engine of growth.

TOUGHER TALK. At best, Asia's most ferocious tiger is getting its fangs blunted. At worst, Korea could be plunged into its first recession in a decade, with its dreams of emerging as a major industrial power set back. "If this unhappy situation continues, the nation will witness irreparable damage to the economy," warns Deputy Prime Minister Cho Soon,

the government's top economic planner.

On June 19, the normally reticent Korean President, Roh Tae-Woo, declared an economic crisis and told his minister to turn things around or resign. One key goal: limiting annual pay hikes to 10%. If the tougher talk doesn't work, government planners and independent economists are holding out the prospect of sharp economic contraction or outright recession. Some hope a recession would ease demands for 50% pay hikes and discredit the radical students and dissidents who have penetrated factories in bid to topple Roh, whom they see as military puppet.

For now, the downturn can only deep-

n. During the first five months of this year, exports grew by a paltry 5.7% vs. 8.4% for all of 1988. With export prices up by about 12%, exports are actually declining in real terms. After achieving a \$11.6 billion trade surplus in 1988, Korea has recorded a deficit of \$520 million so far this year. And since exports account for about one-third of Korea's economy, this pulled growth in the country's gross national product down from 5% last year to 5.7% for this year's first quarter, the lowest since 1985.

LABOR UNREST. Although overall exports of electronic goods are still growing, such labor-intensive products as TVs and radio-cassette players are losing market share, says Koo Cha-Hak, chairman of the electronics division of Lucky Goldstar Group. Daewoo Telecom Co.'s exports this year will account for 40% of total revenues, down from 55% last year. "Our international competitiveness is definitely deteriorating, and there is no short-term solution," says Suh Sang-Mok, a member of the National Assembly and a key policymaker for the ruling Democratic Justice Party.

Aside from the rising won, which makes Korea's exports more expensive, the nation's competitiveness is being hurt by strikes that have cost Korea \$4.5 billion in production so far this year. An often-violent, 100-day work stoppage at Hyundai Heavy Industries Co. reduced profits by \$30 million, says a top executive. The country's three largest auto makers say they could have made almost 75,000 more cars this spring, worth a total of almost \$1 billion, were it not for labor disruption. Altogether, 400 manufacturers have been hit by labor unrest this year.

Desperate to settle the strikes, managements are caving in to sky-high wage demands. Last year, Korean workers won an average annual raise of 19.8%, while productivity was rising by about 1%. This year, striking manufacturing workers are winning raises of about 1%. From September, 1987, to May, 1989, Korea's real labor costs rose by 13.3%, compared with 12.1% in Taiwan and a drop of 16.6% in Japan. Korea's wages are now the highest in Asia outside Japan. No wonder companies such as RCA Corp. and Hitachi Ltd. are ditching some purchasing from Korea to Japan and elsewhere.

Seoul's most effective economic tool is

tight credit. To fight an inflation rate expected to range from 7% to 9% this year, officials are tightening the tap for companies, even those strapped for cash because of strikes and falling exports. Korea's real interest rate of 16% is the highest in the industrial world. The result: less investment and a sell-off of assets to raise funds. "The government is using the financial valve to force companies to divest," fumes an executive at a major *chaebol*, or conglomerate. "What the U.S. occupation did to the *zaibatsu* in Japan is happening in Korea."

ers never got a proper distribution of income without fighting," says Phee Jung-Sun, director of international affairs at the Federation of Korean Metalworkers' Trade Unions. "That's a lesson we've learned from Western countries." Other more militant labor union leaders say that they're willing to accept nothing less than the overthrow of Roh's government.

A few observers believe Cho, through his refusal to prime the pump, secretly wants a recession. Cho denies this, saying a looser fiscal policy would accelerate inflation and that the current slow-

down is cyclical. The economy should start picking up steam later this year, he says, as strikes abate and domestic demand replaces exports as the economy's driving force. One reason for allowing moderate increases in domestic demand is to ease pressure from Washington for Korea to open its markets.

BALANCING ACT. The man who gets the blame for Korea's economic troubles is Roh. Most Koreans saw Roh's June 19 declaration of an economic crisis as too little, too late. Critics argue that if Roh could present a clear vision of where he wanted to take the country, workers and rebellious students wouldn't succumb so easily to agitation. "As time passes, more and more Koreans can't believe in the ability of the President," says Lee Hahn-Koo, president of the Daewoo Research Institute.

To his credit, Roh has been performing an extremely delicate balancing act in keeping his party's right wing and the military under control in the face of student and labor uprisings. He also has been crippled by his close ties with predecessor Chun Doo Hwan.

What's more, Roh was elected in December, 1987, by only 36% of the voters, and his party lacks a majority in the National Assembly.

One encouraging sign is that Korea's four leading political parties are talking among themselves. Kim Dae-Jung, leader of the Party for Peace & Democracy and Roh's most bitter political rival, today speaks rather charitably of Roh. "I'm not pessimistic about him," says Kim. "He's very reasonable." But if past experience is any guide, it will take more than sweet reason to steer Korea through its deepening economic gloom.

By Robert Neff and Laxmi Nakarmi in Seoul



SHIPYARD WORKER: DEMANDING A SHARE OF KOREA'S AFFLUENCE

Some Koreans think that a recession is just what the doctor ordered. For one thing, it would cool overheated domestic demand for autos, refrigerators, televisions, expensive clothes, and other items the government considers "nonproductive." And by boosting unemployment, a recession might persuade Koreans to work harder and spend less time on politics. "When the people realize the economy is going down, they will start to behave," says one executive.

But workers insist that they aren't willing to accept a dose of austerity. Even relatively moderate union leaders say it's time to struggle for a bigger share of Korea's new affluence. "Work-

EUROPE

MORE THAN EVER, THATCHER IS ODD WOMAN OUT

The Conservative defeat in the Europarlament vote isolates her further

Voters across the European Community turned thumbs down on scores of incumbents in the European Parliament elections. But nowhere was the damage more severe than in Britain. Opposition Labor Party candidates played up dissatisfaction with Prime Minister Margaret Thatcher's anti-EC rhetoric to deal her Conservative Party brethren their first major electoral defeat since taking power in 1979.

The loss is certain to intensify calls for Thatcher to ease her opposition to further economic and monetary integration with Europe as the EC's 1992 free-trade deadline approaches. Some Conservatives fear that if she doesn't play ball, her decade-long domination of British politics and European foreign affairs may be in danger.

British Conservatives won only 32 seats to the Labor Party's 45—the exact reverse of the last EC Parliament vote in 1984. That sent a clear message: "The time has passed where we can afford to be reluctant Europeans," remarks

James Elles, a Tory EC Parliament member who survived the contest.

The changing complexion of the Strasbourg-based Europarlament only heightens such concerns. Although far-right candidates advanced in some coun-

its agenda. If Thatcher maintains her independent stand, Tory politicians and business leaders warn that Britain risks being frozen out of key EC decisions.

Pro-European politicians are wasting no time exploiting the unease. The day after the elections concluded on June 18, the Foreign Ministers of France and West Germany called on Britain to join the European Monetary System to support their goals of a common currency and central bank. At the EC summit in Madrid June 26, Thatcher may offer a minor concession—support for a closer examination of fuller European monetary integration.

Even before the Parliamentary loss, Thatcher's support had been waning across a broad range of issues. Her revival of the economy is unraveling amid high inflation and interest rates, and a ballooning trade deficit, as well as spreading public-sector strikes. And her initiatives to reform the health service and education systems and to overhaul local government finances have spawned resentment.

Still, Thatcher may rebound from all this. Despite her frequent disdain for European affairs, the Prime Minister may decide that



her own well-being hinges on further cooperation with the Continent. The problem is, no one but Thatcher can tell when—or if—she'll take the plunge.

By Richard A. Melcher in London, with bureau reports

BRAZIL

BLAME IT ON NAHAS

How one speculator's cash crunch sparked a stock market crash

Brazil long has been the home of some of the world's wildest stock-market action, but this was a doozy even by hyperinflated local standards. In the middle of June, both the São Paulo and Rio de Janeiro *bolsas* plunged 30% after a pyramid of stocks, options, and futures owned by industrialist Naji Robert Nahas crumbled when he was ordered to come up with col-

lateral to cover massive borrowings.

The crash left victims aplenty. It forced the resignation of central bank Governor Elmo Camões. With Nahas owing as much as \$400 million, six local brokerages, including one owned by Camões' family, were ordered liquidated. Some \$58 million of Nahas' debts are owed to a bank 50%-owned by Bankers Trust New York Corp.

The subsidiary has received a cash infusion from its owners to keep operating. And foreign investors face lost paper profits amounting to hundreds of millions of dollars. The combined book value of Brazil Fund Inc. and Battery-march Financial Management's Brazilian equity fund have plunged by \$145 million since June 9.

Nahas, 42, an Egyptian-born conglomerate owner and longtime speculator,

faltered amid a two-month fall in stock prices and spiraling interest rates. First the São Paulo stock exchange ordered Nahas to produce cash to cover 30% of his purchases, up from 10%. Then it told him to settle purchases in a day, instead of five. In response, Nahas stopped payments on \$39 million in checks to brokers, forcing regulators to close markets for a day. Police are probing his dealings. Nahas would not return calls but has said on TV that he was "victimized."

While the affair has burned many investors, some argue that Brazilian stocks now are incredible bargains. In deed, São Paulo's index rebounded 15% on June 20. "We're buying," says Battery-march Trustee Richard Gula. But for many others, caution will be the rule until the affair cools.

By Jeffrey Ryser in Sao Paulo

CARLOS MENEM: A PERONIST WHO MAY RULE LIKE A PRAGMATIST

Campaigning for Argentina's May 14 presidential election, bewhiskered Peronist candidate Carlos Saúl Menem talked like a traditional populist, making vague promises aimed at pleasing almost everyone. But to the surprise of friends and foes, when he takes office as President on July 8, he may start to dismantle the highly protected, state-dominated economic structure created by Juan Domingo Perón in the 1950s. By choosing Miguel Roig, a multinational corporate

executive, as Economy Minister, Menem signaled that he intends to take a pragmatic approach to Argentina's staggering problems. Menem appears intent on shifting from traditional Peronist economic intervention toward more reliance on private enterprise and open markets.

The 63-year-old Roig, who didn't vote for Menem, was formerly executive vice-president of Bunge & Born, a Buenos Aires trading and industrial giant. In the past year, Roig has been active in a subsidiary that has developed economic models and strategies to curb inflation with a wage-price agreement among business, labor, and the government, followed by measures to shrink Argentina's bloated public sector and other structural reforms. "Clearly, Menem wants the business class to feel an obligation to participate," says Aldo Ferrer, president of the Banco de la Provincia de Buenos Aires and a former Economy Minister. In the past, business' role in such recovery efforts has been dominated by state-run companies and beneficiaries of government favors rather than by internationally competitive corporations such as Bunge & Born.

TUGH JOB. Paradoxically, Menem may have a better chance of succeeding because his own backers have been among the greatest obstacles to reform in the past. He will have to force a showdown with powerful Peronist labor unions to attack the roots of Argentina's economic malaise—starting with 115 non-losing state companies. Privatizing those would affect the

jobs of 22% of Argentine workers. He must also try to renegotiate Argentina's \$60 billion foreign debt. To oversee that tough job he has picked Domingo Cavallo, a Harvard-trained economist who will serve as Foreign Minister. Still, doubts remain about Menem's commitment to reform because he has named Ministers of Energy and Public Works who represent Peronism's traditional, statist philosophy.

However, if Menem pushes a market-oriented overhaul of

Argentina's economy, he will be following the example of other key Latin countries. Mexico's Carlos Salinas de Gortari, for one, is already opening up a protected, state-dominated economy. An even more encouraging example for Menem to emulate may be Venezuela's Carlos Andrés Pérez. In the 1970s, in his first term as president, Pérez was a free-spending populist. But since starting a second term last December, Pérez has braked inflation with tough measures ranging from tariff cuts to removal of wage and price controls. In doing so,

Pérez is bucking both the leadership of his own Democratic Action Party and labor unions, which staged the first nationwide strike since 1957 in May. But he is starting to win business support.

In Argentina, rioting and looting by hungry Argentines in late May prompted a decision by Alfonsín to step down before his term's scheduled end on Dec. 10. But he has agreed with Menem that legislators of Alfonsín's Radical Civic Union will support reform legislation until a new Congress is installed in December. Although Alfonsín failed in his economic policies, he resisted disruptive political meddling by the military and strengthened Argentine democracy. For Menem, that legacy should offer a sound footing as he struggles to arrest the country's now startling economic decline.

By Jeffrey Ryser and Richard Kessler in Buenos Aires, with Gail DeGeorge in Miami



ALFONSIN AND SUCCESSOR MENEM

GLOBAL WRAPUP

GREECE

Voters' reaction against financial scandals in Prime Minister Andreas Papandreu's government, as well as his publicized extramarital romance, appears to have ended eight years of socialist rule. But the failure of any party to win a parliamentary majority in elections on June 18 raises the likelihood of months of weak, do-nothing government and new elections sometime between next fall and spring.

The result will be to delay measures needed to integrate Greece's economy with the rest of the European Community. Stalled are banking reforms, freeing of capital movements, steps to make the

drachma fully convertible, and easing of restrictive labor laws.

The conservative New Democracy Party, led by Constantine Mitsotakis, won 44.3% of the vote against 39.2% for Papandreu's Panhellenic Socialist Movement. To form a government, either would have to join with a Communist-led alliance that won 13.5% of the vote. But coalitions have had little success in Greece, so the next government may be short-lived.

MEXICO

State and local elections on July 2 will test the strength of the ruling Institutional Revolutionary Party (PRI) and President Carlos Salinas de

Gortari's commitment to clean elections. The crucial contest pits 38-year-old Margarita Ortega, the PRI candidate, against former Ensenada Mayor Ernesto Ruffo Appel of the conservative National Action Party (PAN) in a close gubernatorial race in Baja California Norte. In 60 years, the PRI has never lost a governorship. But if the PAN is able to make a credible claim of electoral fraud, it would tarnish Salinas' reformist image.

Opponents are likely to win city posts in Chihuahua state and legislative seats in Michoacán state, a stronghold of leftist leader Cuauhtémoc Cárdenas. But in Baja's tight race, it's a good bet that the PRI machine will manage to keep the governorship within the party.



RETAILING

LITTLE PRICES ARE LOOKING GOOD TO BIG RETAILERS

Sears' switch to everyday low prices is stirring up the industry

When Sears, Roebuck & Co. switched to a policy of everyday low prices in its 824 stores back in March, Chairman Joseph E. Antonini of rival K mart Corp. said he wasn't impressed. "What's so new about that strategy?" he asked shareholders at the annual meeting last month. "This is what K mart has been doing for 27 years."

Antonini may pooh-pooh Sears in public, but the nation's largest retail chain has clearly put No. 2 K mart on the defensive. K mart officials have been frustrated by a three-month sales slump and a 22% dip, to \$94.1 million, in first-quarter earnings, which it blames on cold weather. Now, after three years of organizing the chain's marketing to focus on general themes, such as home entertaining, K mart executives are backpedaling to a more price-oriented approach. The chain even tried doubling the value of manufacturers' coupons in a one-day test to see if it could attract more customers to its 2,272 discount stores. It is also driving home the low-price message in radio spots and weekly advertising circulars that reach 70 million homes. Says Walter F. Loeb, retail analyst at

Morgan Stanley & Co.: "Some of the higher-price merchandising may take a back seat."

That's likely to be true for a lot more stores than K mart. Many retailers of basic goods are now toying with the idea of everyday low pricing, if they haven't instituted it already. Whenever a company as big as Sears slashes prices and attempts to do away with promotional sales events, it's bound to stir up the industry. But the reaction this time suggests that something more fundamental than a price war may be going on.

SPENDING SLOWDOWN? Why are so many retailers suddenly rethinking their pricing policies? Says Michael Goldstein, vice-chairman of Toys 'R' Us Inc.: "The companies that have been most successful in retailing over the past 5 to 10 years have been Toys 'R' Us, Wal-Mart, and Circuit City, and basically they all have everyday low pricing. People look at them and say: 'That must be why they're doing so well.'"

Retailers are also preparing

for a slowdown in consumer spending. May's retail sales numbers may be a harbinger: General merchandise and department-store sales dipped 1.2% after an 0.8% uptick in April, while specialty apparel sales fell 1.4% following an April gain of 3.9%. Rosalind Wells, chief economist for the National Retail Merchants Assn., forecasts a 6% increase in general merchandise, apparel, and furniture sales in 1989. This is about the same as in 1988, but the trend throughout the year will be downward, Wells says.

In this environment, competitive pricing is more important than ever. Everyday low pricing doesn't mean that Sears and other stores will be cutting all regular prices to rock-bottom sale levels. But prices will be more consistently low, enabling retailers to avoid the steepest ups and downs of promotional cycles.

Take the experience of Home Depot Inc., an Atlanta-based do-it-yourself retailer. The chain used to sell a popular brand of paint for \$12 but frequently advertised it for \$8. "People learned over a period of time that it was going to be on sale again, so we

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NATIONAL SPROCKETS CORPORATION
QUARTERLY SALES REPORT

	Q1	Q2	Q3	Q4
Gripper Plus				\$50,000
Gripper	\$20,000	\$17,000	\$15,500	\$10,000
Extra Spring	\$35,000	\$38,000	\$33,000	\$39,000
Torquemaster	\$10,000	\$28,000	\$34,000	\$37,000
Total	\$65,000	\$83,000	\$82,500	\$136,000

01-May-89 11:30 AM MAIN

SPREADSHEET. Create a table in a spreadsheet that will automatically calculate formulas, allowing for what-if analyses.

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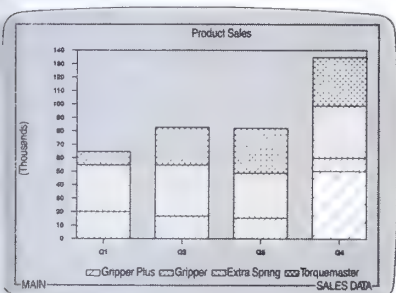
NATIONAL SPROCKETS CORPORATION
QUARTERLY SALES REPORT

Sales have really skyrocketed since we started shipping the new Gripper Plus sprocket. As you can see, the figures for the fourth quarter show dramatic improvement over the previous quarters.

	Q1	Q2	Q3	Q4
Gripper Plus				\$50,000
Gripper	\$20,000	\$17,000	\$15,500	\$10,000
Extra Spring	\$35,000	\$38,000	\$33,000	\$39,000
Torquemaster	\$10,000	\$28,000	\$34,000	\$37,000
Total	\$65,000	\$83,000	\$82,500	\$136,000

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WORD PROCESSING. Write a document in the full featured word processor. Even include a spreadsheet.



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Editing Record 1 of 2,715
Enter First Name

Name: Jason Taylor

Territory: Central

Address: 25 Glenwood Drive
Des Moines IA 50872

Gripper Sales: 78 Gripper Plus Sales: 54
Extra Spring Sales: 87 Torquemaster Sales: 43

01-May-89 12:20 PM MAIN SALES DATA

DATABASE. Store information in a powerful database that can hold over 8,000 records, with up to 256 fields.

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	Territory	Gripper	Gripper Plus	Extra Spring
Luft	Northeast	30	45	23
Walen	Southwest	12	23	45
Ballard	Northeast	45	22	25
Palsch	Northeast	13	45	26
O'Malley	South	13	45	26
Levin	Central	24	45	17
Hollins	South	12	13	45
Warring	Southwest	78	15	63
Flavin	Southwest	65	78	22
Rehoboth	Central	67	45	32
O'Brien	Northeast	25	64	89
Vinelli	Southwest	55	36	21
Timmons	Northeast	54	67	99
Graham	Southwest	45	68	94
Hollings	Central	43	67	89

01-May-89 12:30 PM COMM

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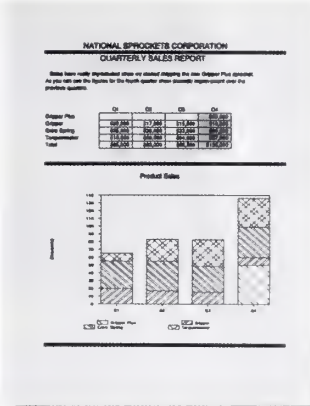
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AS PRICE TAGS SHRINK, SO WILL THE DAILY NEWSPAPER

Looking for a washing machine, a garden hose, a new pair of shoes? Many shoppers check the ads in the newspapers before they set foot in a store. But that may change as more retailers adopt everyday low prices. If some big chains never put merchandise on sale, it follows that they won't need to advertise as much. And that spells long-term trouble for newspapers, which have already been hit hard by slowing growth in retail advertising.

At first, newspapers will pick up ad lineage as retailers announce their shift to everyday low pricing. Sears, Roebuck & Co. and Target Stores have increased their ad budgets to get the word out. One example: Sears' year-to-date ad lineage at two Times Mirror Co. newspapers in Connecticut, *The Advocate* and *Greenwich Time*, has jumped 123% from its year-ago level, says Jack A. Findley, senior vice-president for marketing at *The Advocate*.

Most industry watchers are convinced, however, that this boom won't last. "One very real goal of these new pricing policies is to reduce the amount of advertising you have to do to get people into the stores," notes Carl E. Steidtmann, chief economist at Management Horizons, the retail consulting division of Price Waterhouse & Co. Wal-Mart Stores Inc., for instance, spends less than 1% of sales on advertising, according to David A. Poneman, an analyst with Sanford C. Bernstein & Co., while Sears has been spending from 2% to 3%.

THEATRICAL WAYS. Many stores are re-evaluating not just how much money they spend but where they spend it. In 1987, Nashville-based Service Merchandise Co., for example, decided to cut back sharply on the 30 million free-standing inserts it placed in Sunday newspapers each week and to blitz shoppers who have recently spent \$50 or more in its stores with 12 million weekly direct mailings. The company says that this has reduced annual advertising costs by about \$20 million and that sales in stores open more than a year rose 10% last year.

Sears, meanwhile, is casting around for more theatrical ways to generate new business. One idea: The chain recently teamed with NBC on a major fall promotional campaign that offers shoppers a chance to win the opportunity to play a bit part in a prime-time television program.

All this comes at a time when newspapers are reeling from consolidation in the retail industry. After highly leveraged takeovers such as Campeau Corp.'s acquisitions of Federated Department Stores Inc. and Allied Stores Corp., ad budgets have become targets for cost-cutting. At the *Los Angeles Times*, mergers and acquisitions among advertisers cost the paper \$6 million in ad revenues last year, says Donald H. Clark, executive vice-president for marketing. Industrywide, the

annual growth rate of newspaper retail advertising declined to 4% last year from 8% in 1984.

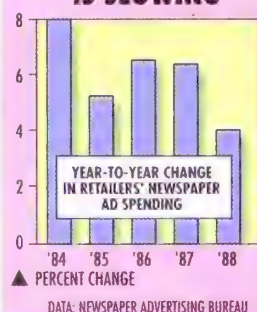
HELP WANTED. Most papers have been able to ward off the effects of the slowdown via rate increases and growth in classified ad lineage. In 1982, classifieds accounted for 32% of newspaper revenues. They represent 43% today, says Bilal Said, an analyst at S. G. Warburg & Co.

But classified growth is beginning to taper off as some real estate markets soften. And newspapers can't keep hiking rates forever, especially as daily circulation flattens and retailers start demanding volume discounts from major newspaper chains such as Gannett Co. and Knight-Ridder Inc.

Newspaper executives are hoping that everyday-low-price retailers will keep up their advertising even after consumers get the message. "They'll still have to tell why they are better than the other guy," says Thomas J. Culligan, senior vice-president for marketing at the Minneapolis *Star-Tribune*. But that could be wishful thinking. With their new low prices and low margins, retailers just may not have the money to do that.

By Walecia Konrad in New York, with Brian Bremner in Chicago and Russell Mitchell in Minneapolis

RETAIL AD GROWTH IS SLOWING



rarely sold any paint at \$12," says Ronald M. Brill, Home Depot's senior vice president and chief financial officer. About 18 months ago, the chain began shifting to everyday low prices. Now the paint retails for \$8 all the time. "It smooths out our selling patterns and gives us better control over our margins," Brill says.

AVOIDING TEMPTATION. Everyday low pricing can also cut retailers' costs for advertising and labor. With fewer promotions, Home Depot was able to slash ad spending from 3.2% of sales in 1985 to 1.5% in 1988. Its profits have soared to \$76.8 million in the last fiscal year from \$8.2 million in 1985. Newmark & Lewis Inc., which operates 47 consumer electronics stores in the Northeast, used to mark up items and then let shoppers negotiate the prices back down. To end the haggling and free clerks for other things, the chain recently cut prices 5% to 20% on all items.

The approach should have advantages for shoppers, too. Regular low prices are more convenient for time-pressed customers who find it difficult to chase sales. "The ability of customers to shop whenever they want is much more important than it has been in the past," says George C. Hite, a spokesman for Dayton-Hudson Corp.'s Target Stores division, which is testing everyday low pricing in 46 of its 379 stores.

By using fewer sales gimmicks, stores may recapture some of the credibility they've lost by constantly marking goods up and down. But they'll have to avoid the temptation to launch new promotions when sales slow.

Retailers also can't wait for cost savings to fall in their laps. Everyday low pricing requires efficient operations to maintain profit margins. "If you can't be a low-cost player, forget it," says Bernard F. Brennan, chairman of Montgomery Ward & Co. Ward's, which has reduced operating costs by \$100 million annually since 1985, began everyday low pricing in 1987. Sears could have a big problem here: Its selling and administrative expenses are among the highest in general-merchandise retailing: about 31% of each sales dollar, compared with 25% at K mart.

As for K mart, it faces a delicate balancing act. With competitors making such a big to-do about everyday low prices, it must project itself as a low price retailer without damaging its efforts to achieve a classier image. To paraphrase its slogan, K mart must remain the savings place—but with a touch of grace.

By Amy Dunkin in New York, with David Woodruff in Detroit, Dean Foust in Atlanta, and bureau reports

In a Different Light.

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The Golden Gate Bridge,
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Bank of America

LYPHOMED'S VITAL SIGNS ARE STABILIZING

Two turnaround doctors and an AIDS drug have helped

Not long ago, LyphoMed Inc. was on the critical list. A rash of quality-control problems, damaging Food & Drug Administration reports, product recalls, and bad publicity sent its stock plunging. The Rosemont (Ill.) maker of generic drugs seemed incapable of healing itself, let alone anyone else.

But LyphoMed is taking the cure. A new management team, led by a pair of former American Hospital Supply Corp. executives, is cleaning up LyphoMed's glaring quality-control problems. And on June 15, the FDA granted the company the exclusive right to market aerosol pentamidine, the first drug proven effective in inhibiting a deadly form of pneumonia suffered by AIDS patients. Word of pending approval sent LyphoMed's stock to a 52-week high of 21½ in late May. On June 19, it was trading at 18¾.

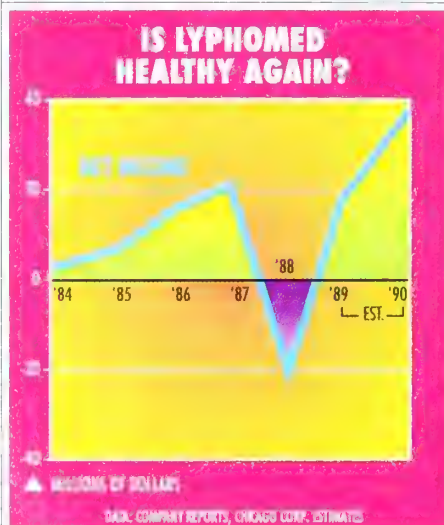
Even before the FDA's move, LyphoMed was improving. The company posted a modest profit of \$866,000 in the first quarter of this year on sales of \$34.8 million, following three quarters of losses. The operating rate at its flagship Melrose Park (Ill.) plant rose to 80% of capacity this year from a low of 30% last year. And the company shut its Orlando facility, whose products had been seized by the FDA last summer.

THE FIXERS. Customers are coming back into the fold. LyphoMed has regained permission to bid for contracts with all except one of the hospital purchasing groups that dropped it as a major supplier. Last month it struck a three-year deal to supply its products to one of the largest purchasing groups, American Healthcare Systems. "Substandard product is a sin that pharmacists don't forget easily," says Gary Gerding, director of group purchasing programs for the Illinois Hospital Assn. "But LyphoMed did a good job of convincing us that the big problems were behind it."

The turnaround doctors at LyphoMed are Senior Vice-President of Scientific Affairs Floyd Benjamin and Chief Executive Gary Nei. Benjamin joined LyphoMed last July following stints with American Hospital Supply and Abbott Laboratories, both of which had plants

shut down by the FDA. Called in as a seasoned FDA fix-it man, Benjamin developed a plan to make sure the company's products and factories met agency standards. Nei, who arrived four months later, had 19 years of medical sales and marketing experience with American Hospital Supply under his belt. Almost immediately, he kicked off an intensive campaign to woo back customers.

The pair faced a tough challenge. In



November, 1987, quality control problems forced LyphoMed to close three plants until the FDA was satisfied that they met federal drug specifications. At the same time, the FDA suspended approvals of additional drugs. Two months later, LyphoMed recalled four products, citing potency and quality problems. The following June, another critical FDA review forced LyphoMed to shutter its Orlando plant.

The new managers have succeeded in smoothing over the company's rocky re-

Pentamidine sales could hit \$120 million a year. But LyphoMed has few other promising products in line

lations with the FDA. On May 1, an FDA advisory panel unanimously recommended that aerosol pentamidine be approved for sale, and Commissioner Frank E. Young praised the quality of the clinical trials conducted by a group of San Francisco physicians for the company. The troubled plant in Melrose Park has met agency standards and is due for a final reinspection within two months.

The FDA nod gives LyphoMed the right to sell aerosol pentamidine on an exclusive basis for seven years under the so-called orphan drug program, beating out Fisons PLC, which is also racing to develop an aerosol version of the drug. The total market for the pentamidine, which is expected to cost \$1,200 per patient annually, could reach \$120 million by the early 1990s, since some 60% of AIDS patients contract pneumocystis carinii pneumonia (PCP).

'A ONE-DRUG COMPANY.' The aerosol version of the drug, which can be used to stave off first attacks and recurrences of PCP, has a significantly larger potential market than the injectable version, which the company has manufactured and marketed under orphan drug status since 1984. But because LyphoMed's exclusive right to sell the drug expires in 1991, it will need another strong seller. Bonnie Perkins, a Chicago Corp. analyst estimates that sales of aerosol pentamidine could double within two years, to \$85 million.

The company badly needs that boost. Its share of the generic drug market shrank to 15% today from 32% in late 1987. Last year, injectable pentamidine contributed 31% of LyphoMed's \$127 million in sales. And the company's generic drug business, burdened by razor-thin margins and increasing competition, remains unprofitable.

Will LyphoMed become hooked on pentamidine for its near-term sales growth? With the exception of gallium nitrate, a treatment for excess calcium in the blood, the company doesn't have many other promising drugs in its medicine cabinet. "I see LyphoMed as a one drug company," says Leonard S. Yaffe, a Montgomery Securities analyst. Counters Nei: "Many successful companies began with just one drug." He points out that LyphoMed's research and development budget grew to 13% of sales in 1988 from just under 5% in 1987.

For the time being, though, aerosol pentamidine has gotten LyphoMed out of intensive care. "We survived," says Nei. "Six months ago, people didn't even think that was possible." Whether the company continues to convalesce remains to be seen.

By Julia Flynn Siler in Rosemont, Ill.

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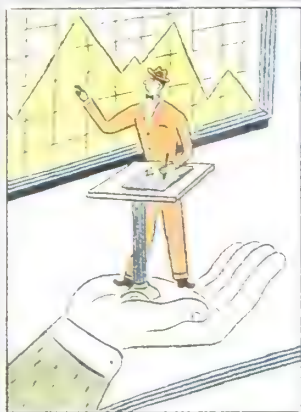
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Think of it as a kind of electronic highlighter: You run it over the important lines in a book or magazine. But instead of laying down a stroke of yellow color, you pick up those nuggets of wisdom, then transfer them onto a sheet of plain paper. That's the essence of Sony Corp.'s new Pocket Copier, due to hit stores in July at a suggested list of \$160.

The little copier is a major advance on other Japanese manufacturers' handheld units. Not only is Sony's version smaller

and lighter, at roughly 4 inches by 2 inches by 1 inch and 4.6 ounces, but it doesn't use flimsy thermal paper. In fact, it doesn't use any paper at all—not internally, anyhow. Rather, it has a print head and ink ribbon that will print text onto virtually any flat surface.

One end is the scanning device, the other is the printer. In between is a semiconductor memory that can store two images—not necessarily lines of text—each up to eight inches long. Despite the unit's diminutive size, there's even a tint control for adjusting the density of the printed copy. Just roll the scanner across text, then flip the copier on end to "dump" the image onto paper. Sony hopes that American consumers will flip over the idea.

FRIES THAT COOK IN 90 SECONDS—RIGHT AT THE CORNER STORE

Watch out, McDonald's—Procter & Gamble Co. may have a new way to make french fries. For more than a month now, three convenience stores in Orlando have been testing a patented oven and french fry package Procter has devised. Consumers take a special cardboard-and-foil container of prefried potatoes out of a refrigerator case, stick it in the oven, and in 90 seconds or so, out comes a mound of hot french fries.

The special package fits into a cylindrical opening in the oven, which blows hot air through vents in the ends. Procter, which calls the product Jet-Fry French Fries, is trying to find out whether there's a market for it in convenience stores.

The experimental Jet-Fry oven was developed at P&G's Olestra Div., named for the fat substitute P&G is hoping to have approved by the Food & Drug Administration. One of the proposed uses for olestra is to replace oil used in french fries, but Procter hastens to note that the fries being sold in Orlando are made with conventional frying oils.

A PROMISING AIDS TREATMENT RUNS INTO A ROADBLOCK

When researchers found that the AIDS virus slips into white blood cells by attaching to a receptor called CD4, they believed they had the key to defeating the deadly disease. So several biotech companies are racing to develop a genetically engineered version of CD4 that can be injected into patients

to mop up the virus before it can get into cells. But new evidence indicates that this therapy may not be as promising as it first looked.

Scientists at the University of California at San Francisco have discovered that CD4 is not the only way the AIDS virus can infect cells. The researchers, led by Dr. Jacques Homsy and Dr. Jay A. Levy of the UCSF Cancer Research Institute, found that some antibodies produced by infected individuals to fight off the virus actually seem to help the virus enter white blood cells via other receptors. Furthermore, these antibodies could present problems for developing AIDS vaccines. If a vaccine also stimulates production of the errant antibodies, vaccinated people would be at a heightened risk of infection. Preventing those antibodies from appearing will be the next step for the UCSF group.

'NURSE, HAVE YOU MICROWAVED THE SCALPEL YET?'

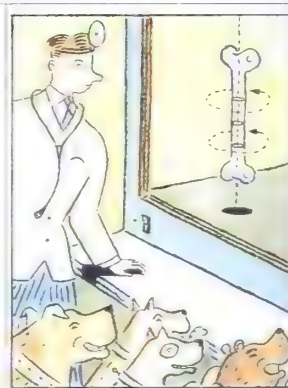
Sterilizing medical and dental equipment takes anywhere from 15 minutes to several hours in traditional steam and chemical baths, and repeated cleanings can damage tools. But with the hoopla over reducing solid waste, disposables are becoming less desirable. Now, Waldemar de Rijk, a research scientist at the National Institute of Standards & Technology, has found that microwave ovens can do the job far faster.

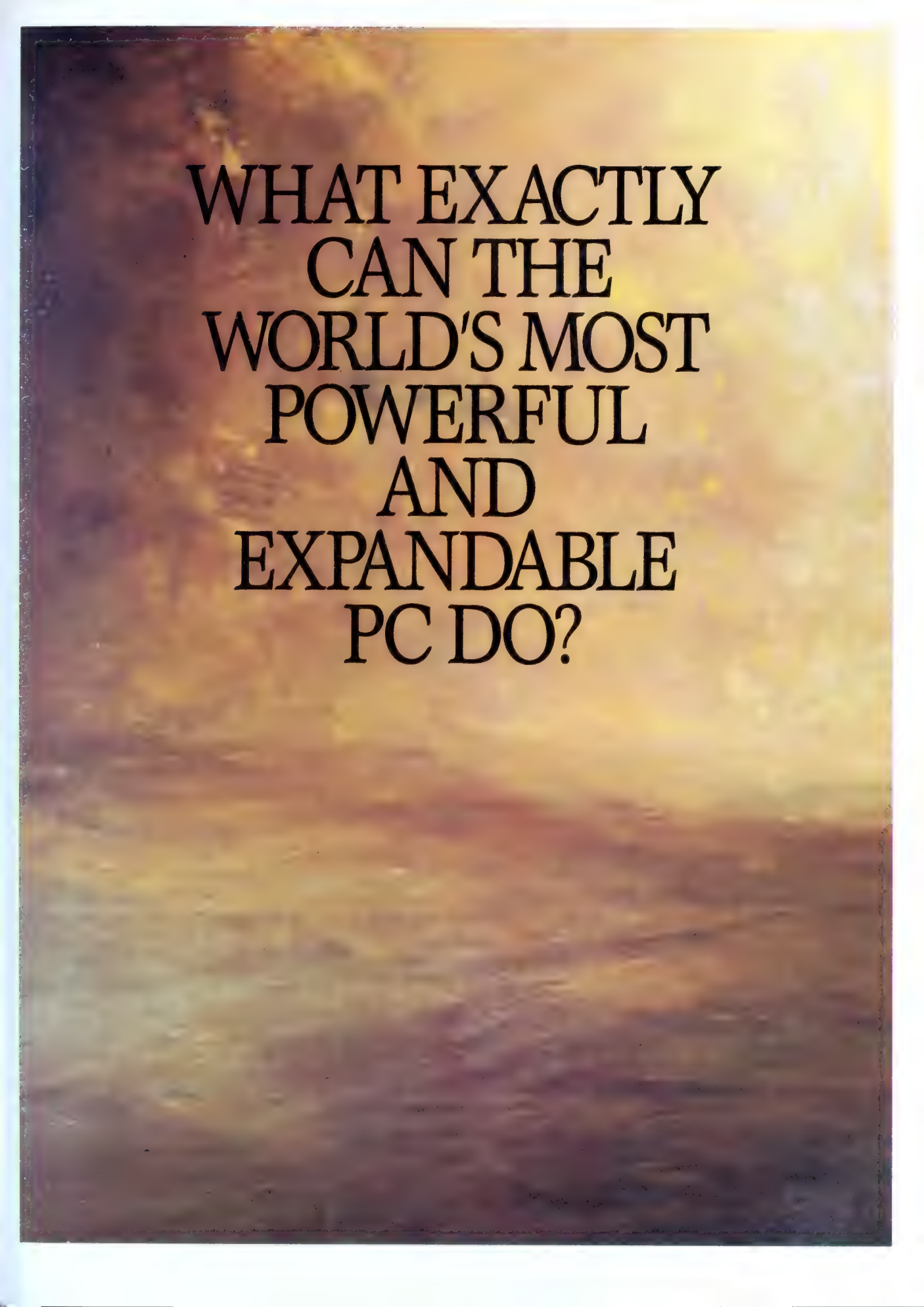
In the new technique, de Rijk puts tools inside a glass chamber and pumps out some of the air. Then he places the chamber inside a standard microwave oven. The microwave energy strips electrons from atoms in the remaining air, creating a gas plasma. De Rijk isn't sure yet whether the plasma kills microorganisms with ultraviolet light, heat, or ion bombardment, but no matter: Anything inside the chamber is killed within 30 seconds. If the method works for all microorganisms, says de Rijk, a new sterilizer could be on the market within two years.

THESE X-RAYS SPOT SHODDY AUTO PARTS—AND BUM BONES

An X-ray imaging process developed by Ford Motor Co. to detect flawed auto parts is now being used by University of Michigan researchers to study how bones change in response to age, stress, and disease. The process, called microcomputed tomography (micro-CT), allows researchers to build up 3-D images of bone that are 200 times more detailed than those provided by a regular CT scan.

Steven Goldstein, a bioengineer and director of research at UM's department of orthopedics, says his group will first use micro-CT to study how aging and physical stress affect the porous, spongy section of bone that acts as a shock absorber for joints. This is the first type of bone affected by osteoporosis, the degenerative bone disease that mainly affects postmenopausal women. Goldstein says that in the future, micro-CT will also be used to investigate the biochemical changes that occur when bones are plagued with arthritis or other diseases. The imaging technique could also be used to study fracture repair and bone replacement—including improving the fit between bones and artificial joints.





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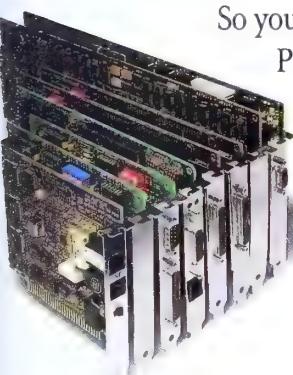
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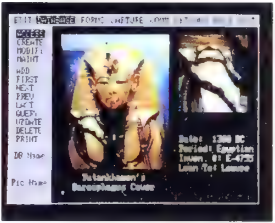
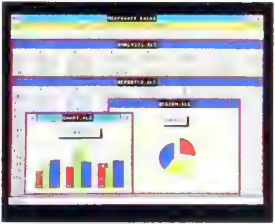
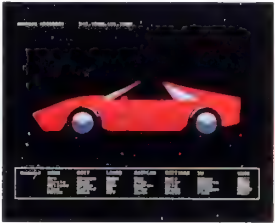
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SOUTHWEST AIRLINES: FLYING HIGH WITH 'UNCLE HERB'

CEO Herb Kelleher's zaniness belies his impressive success

Rushing to catch a flight at Dallas' Love Field one day last year, Herbert D. Kelleher stopped his car in a loading zone to chat with a friend. After several minutes of animated conversation, the chairman and chief executive of Southwest Airlines Co. hurried off to catch his plane. But when he arrived in Houston an hour later, a Southwest employee asked him if he knew where his car was. "In the parking lot?" Kelleher asked. Wrong. He had left it idling at curbside in Dallas.

Kelleher, who tells this story on himself, is the first to admit he's a little scatterbrained at times. But then, it's an image he may be wise to cultivate. Notes San Antonio lawyer Stanley Rosenberg, a friend: "People often think he's crazy and make the mistake of underestimating him." That can be a costly error. Since 1981, Kelleher, 57, has built Southwest into the nation's ninth-largest airline. Last year, the Dallas-based re-

gional carrier posted revenues of \$860 million and profits of \$58 million, a 188% increase over 1987. Passenger traffic grew 16% in 1988, vs. an industry average of 4%, and over the past year, Southwest stock climbed 34%, to 25½.

Now, Kelleher is launching his most aggressive expansion—a push that will greatly affect Southwest's rivals. His plan: increase the frequency of flights on old routes in Texas and open new routes in California and the Midwest. The new routes put him up against American Airlines, USAir, America West, and Midway. He aims to reach \$1 billion in revenues this year and \$2 billion by 1995. To pull it off, he plans to double his fleet, to

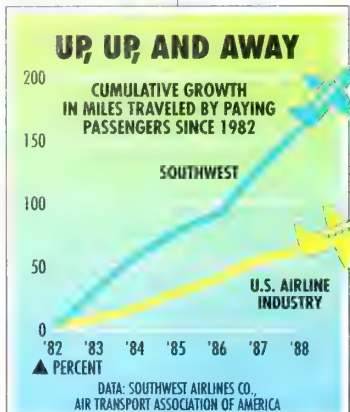
170, by the late 1990s. He's also negotiating to buy into American Airlines Inc.'s massive computerized reservation system. Vows Kelleher: "No one's going to beat us in the cities we serve."

That may be overstating it, but he will surely make life difficult for his rivals. At 5.7¢ per passenger-mile, Southwest's operating costs are the industry's lowest, half a cent below its nearest competitor, Braniff Inc. Kelleher accomplishes this by offering no frills on board and by turning each plane around 15 minutes after arrival, vs. 45 minutes for the industry average. Kelleher wields his cost advantage like a weapon. In April, he started a price war in California with a \$19 flight from Oakland to the Los Angeles suburb of Ontario. At the time, competitors were charging \$148 for L.A.-San Francisco flights. Analysts like the customer response so far. Says Helene Becker of Shearson Lehman Hutton Inc.: "California has been a very good story for them."

KILLER WHALE. There are few things Kelleher loves better than a good story. Sitting in his cluttered office, which features a dozen ceramic wild turkeys as a tribute to his favorite brand of whiskey, he regales listeners with tales and self-effacing humor—all while puffing five packs of cigarettes a day. Many of his stories concern practical jokes. Last year, for the opening of Sea World in San Antonio, Kelleher painted one of his 737s to look like a killer whale. Cross-town rival Robert L. Crandall, CEO of American Airlines, called to congratulate him on the marketing ploy and asked where Kelleher planned to dump the waste. The next Monday, Kelleher had a messenger interrupt Crandall's staff meeting with his response: a giant tub of chocolate mousse and a spoon.

Kelleher's zaniness permeates the airline. On a flight to Austin last winter, flight attendants were dressed as reindeer and elves, and the pilot sang Christmas carols over the loudspeaker while gently rocking the plane. New employees watch *Southwest Shuffle*, a rap-music video that describes various jobs of each department. Kelleher is "a real maniac," says Thomas J. Volz, vice-president of marketing at Braniff Inc. "But who can argue with his success?"

Nothing in Kelleher's background points to airlines. The son of a Campbell Soup Co. manager, he grew up in



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People

Haddon Heights, N.J., and graduated from Wesleyan University in Connecticut and New York University law school. He moved to San Antonio in 1961 when his father-in-law helped him set up a law firm there. In 1966, he and a group of investors put up \$560,000 to found Southwest. His stake was \$20,000. During the airline's early years, he acted only as general counsel and a director. But in 1978, he was named chairman, and in 1981, he took over the CEO's job. **EMBARRASSED?** He immediately became the airline's most visible property. He knows many of his 7,000 employees by name, and they call him "Uncle Herb" or "Herbie." He also stars in most of its TV commercials. Responding to America West ads charging that Southwest passengers should be embarrassed to fly a no-frills airline, he appeared in a TV spot with a bag over his head. He offered the bag to anyone ashamed to fly Southwest, suggesting it could be used to hold all the money you'll save flying us." Some critics claim Kelleher may one day trip himself up. "He holds power very tightly," says one former senior ex-

Some critics claim Kelleher may one day trip himself up. He holds power very tightly,' says a former executive

utive. "Only Kelleher makes major decisions." His tenure has included a few mistakes: In 1986 he bought failing long-haul carrier Muse Air Corp. for \$68 million. Once he took it over, Continental Airlines Inc. blitzed him with cheaper lights spaced 15 minutes before and after Muse's. By 1987, Muse was draining 2 million a month from Southwest, and Kelleher shut down the operation.

Now that he's in an expansion mode again, Kelleher is taking a more conservative approach. Although he has bought 19 new aircraft in the past 18 months, he has avoided debt by tapping cash pool that currently stands at \$200 million. His new route structures are cautious, too. Rather than going head-to-head with American Airlines in Los Angeles, for instance, he routed Southwest to nearby Ontario. But don't get the idea that Kelleher has become tame. While he was recovering from surgery on a facial nerve in April, employees sent huge "get well" placards to the hospital. His three favorites: the ones that came with intravenous systems featuring Wild Turkey.

By Kevin Kelly in Dallas



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SURVIVING THE SLOWDOWN: DIVERSITY IS KEY

The Southwest and South Atlantic areas will fare the best

When states depend on one or two industries, it's like playing Russian roulette. True, the gamble can pay off handsomely, as it did for oil-rich Texas during the 1970s. But an area can get its economic brains blown out when a major industry goes into a severe slump. Auto-producing Michigan found that out in the early 1980s, as did Colorado and Wyoming

its diversity, "it will still grow faster than the rest of the U.S.," forecasts Phillip Vincent, an economist at First Interstate Bancorp in Los Angeles. Farm exports and commercial aircraft production will be two bright spots.

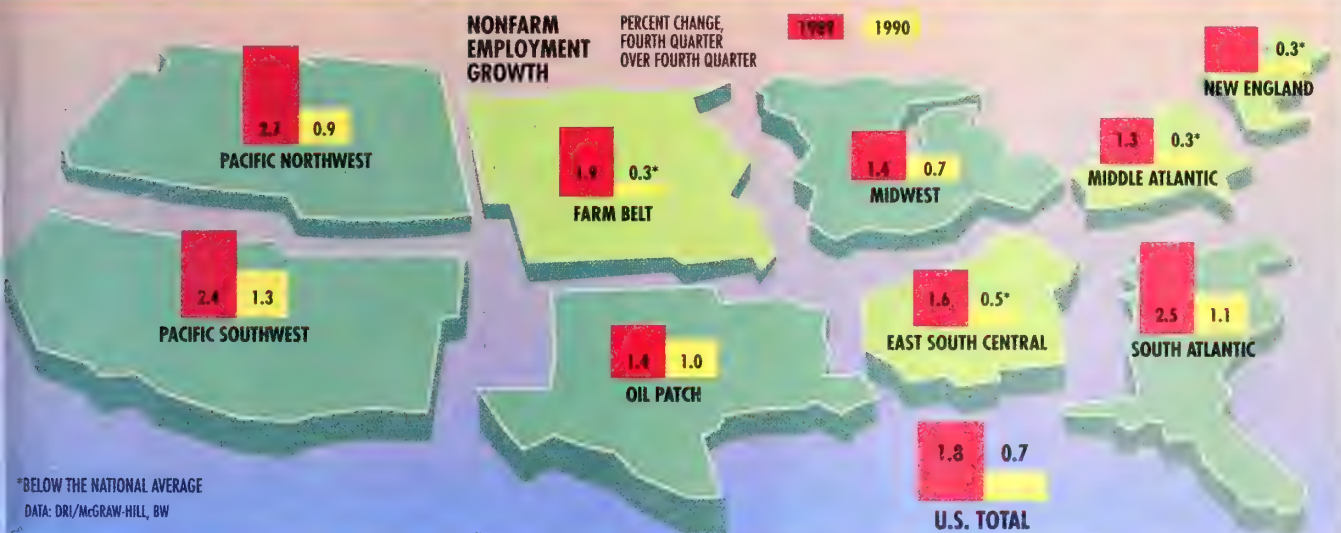
The other states in the Southwest should also grow at a healthy clip. Employment for this entire region should increase about 1.3% next year, al-

Tobacco and textiles remain important industries in the South, but other manufacturers, such as heavy machinery and transportation equipment producers, have also set up shop here, boosting the region's share of exports.

Unlike the last recession, when states such as New York and Massachusetts lost few jobs, this time the big losers will include the Northeast:

■ **New England.** "New England's glory days appear to be over," says Donald W. Walls, chief regional economist at DRI/McGraw-Hill. Cuts in military spending will hurt the defense contractors based here, especially in Massachusetts and Connecticut. Weaker consumer demand will lead to output reductions at the region's leather and jewelry manufacturers. Plus, higher energy costs and a slower pace of both home and office con-

WHERE THE SOFT LANDING MAY BE BUMPY



When the energy bubble burst around the same time.

Diversification makes better business sense, especially when times get rough. And with the mounting consensus of forecasters expecting a period of very slow growth well into 1990, the regions with more diverse economies should fare the best. The two big winners—those that will surpass the U.S. average in jobs and income growth—are the Pacific Northwest and the South Atlantic states. The big losers: the Middle Atlantic region and New England, where one or two industries have fueled local economies through much of the 1980s.

Here's a rundown on the winning regions:

■ **Pacific Southwest.** California's economy will slow next year, but because of

most twice the national average (chart).

Even Colorado will do well in 1990. Denver has finally recovered from excess capacity in everything from office buildings to legal services and should add jobs this year and next, projects Lucy Black Creighton, regional economist at First Interstate Bank of Denver. Tourism will help some states weather cutbacks in mining.

■ **South Atlantic.** The growth of service industries, including medical care and computer services, have made this region more diversified and less prone to a downturn, says Gene D. Sullivan, economist at the Federal Reserve Bank of Atlanta. "Regionwide, employment has been growing at 1¼% to 1½% a year," he says, "and we're not anticipating any sharp slowdown in this growth."

struction will hold down overall growth.

■ **Middle Atlantic.** Ever since the 1987 stock market crash, this region's important finance industry has been in a slump, with losses of more than 40,000 jobs. Samuel M. Ehrenhalt, the U.S. Labor Dept.'s regional commissioner, thinks cutbacks will continue. Moreover, factory jobs are leaving the New York City area at an "alarming rate," says Ehrenhalt. And the other major industries—business services and communications—are also stagnating.

Economists at First Fidelity Bancorp in Philadelphia say that "rapidly rising wages and relatively slow productivity growth" have hampered factory output in Eastern Pennsylvania and New Jersey. This slowdown will continue into 1990, while high interest rates and slow-

er income growth should depress retail sales and demand for services.

■ **Farm Belt.** Farm incomes are recovering from the beating they took during last year's drought. Increased government subsidies should lift farm income this year by 10%, according to DRI. But subsidies are expected to decline next year, and incomes should plunge, possibly by as much as 17%. A bad year for the agricultural sector will cut into demand for this region's big manufactured products, especially farm machinery.

Growth in the other regions will closely follow the national average. But in each area, vastly different economic forces will be in play:

■ **Oil Patch.** This region may outperform the nation as a whole next year, but that's because its economy is crawling out of a recession caused by the collapse in energy prices. Right now, rising demand for petrochemicals both domestically and abroad has helped the region's chemical industry. However, the troubles of the savings and loan industry, along with an excess of commercial real estate, could affect the area's financial system and put a damper on growth.

■ **Pacific Northwest.** Housing's continued decline will hurt lumber companies here. But Seattle's booming aircraft industry and the increases in services and trade, especially with Pacific Rim countries, mean this region will grow slightly faster than the rest of the nation.

■ **East South Central.** Several factors will work against this area as the U.S. economy slows. First, much of the manufacturing is based in consumer goods, and demand is already weak. Second, the region has the nation's lowest per capita income and population growth. That means less local consumer demand for services and home construction. Moreover, cutbacks in defense spending will hurt Alabama and Mississippi.

■ **Midwest.** The Midwest may be the big surprise in the coming downturn. "What's in our favor are our two strong sectors, foreign trade and capital investment," argues Robert Schnorbus at the Chicago Federal Reserve Bank. "A mild recession may not have that serious an effect on the Midwest." The auto industry, the region's major consumer-related manufacturer, may not fare as well.

The U.S. expansion is well into its seventh year. The severity of the next downturn is still an open question. Consumer spending, export growth, and monetary policy will all determine whether the economy just slows or falls into recession. But even if the national economy executes a soft landing, the wide divergence in regional economies means that some states face bumpy times ahead.

By Kathleen Madigan in New York

The Corporation

STRATEGIES

HOW TO BUILD A \$30 BILLION EMPIRE IN FIVE YEARS

Italy's Raul Gardini is a shrewd risk-taker—and very lucky

Raul Gardini, 56, already has the schedule of a genteel elder statesman of European business. In early June, the Italian billionaire had a working lunch to discuss world trade with U.S. Commerce Secretary Robert A. Mosbacher at Ca' Dario, Gardini's Renaissance palace on Venice's Grand Canal. Then he flew to Moscow in his Falcon 900 jet, one of five, to look over a project to develop agribusiness on 500,000 hectares in the Ukraine.

Back in Italy, a triumph awaited Gardini: Enimont, the controversial \$11 billion joint venture merging Gardini's bulk chemical businesses with those owned by the Italian government, was formally created on June 15 after months of tough negotiations. In one fell swoop he became head of one of the world's top 10 chemical groups.

But there is also the driven, hard-edged Gardini. Friends tell the story of Gardini summoning a minority shareholder in a company Gardini wanted to control. When the shareholder arrived in Gardini's sumptuous Palazzo Belgioioso in Milan, a friend says, "Gardini looked at his watch and gave the guy 22 minutes to accept his offer of around \$200 million. Not 10 minutes, not 2 days, but exactly 22 minutes." The fellow accepted. Not for nothing is Gardini, an avid sailor, depicted in Italian cartoons with a pirate's black eye patch.

In less than five years, Gardini has amassed a \$30 billion agricultural and chemical group through a combination of luck, risk-taking, and, say critics, sheer ambition. Once dismissed by the Italian business elite as a provincial grain trader, Gardini is fast becoming one of Europe's most powerful industrialists, dominating the Continent's output of agricultural products like sugar,

starches, and soybeans and wielding enormous clout in chemicals. Says Gardini: "Europe has to play the world game, and we've got to be aggressive."

But can Gardini stay on top? Challenge No. 1 is to turn his collection of big companies into a group of enduring global competitors. In the midst of success, some aides worry about Gardini's ability to order the huge empire he has built so rapidly. Gardini's grain-trading

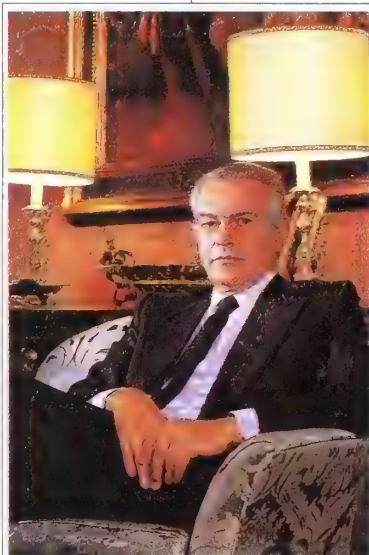
and food-processing units are battling deep-pocketed rivals such as Archer Daniels Midland Co. in the U.S. and Unilever in Europe, while his chemical companies face giants like Hoechst and ICI.

To meet them head on, Gardini has to find professional managers to look after his core businesses. Until now, Gardini has largely put dealmaking associates in key positions. "He's running an empire worth more than \$25 billion," says a confidant in Milan. "He has to buckle

down." Gardini's companies across Europe and in the U.S. are profitable mostly because of the low dollar and cheap oil stocks for his chemical units. "He's been unbelievably lucky," says a close Gardini aide. "That could make him oblivious to some of the challenges."

TAX BREAK. He has surprised his critics before, though. Less than two years ago, Italian pundits were predicting that the worldwide stock market collapse would knock Gardini to the ground. An acquisition spree left him mired in debt. But Gardini's bold efforts to restructure his holdings paid off. Asset sales and rights offering raised \$1 billion, and his political clout in Rome won him a \$700 million tax break last May for Enimont.

When Gardini became chairman of the Ferruzzi family holdings in 1979, after marrying a Ferruzzi daughter, the world



GARDINI AT HIS PALAZZO IN VENICE

as changing rapidly. Traditionally an exporter of grains, Europe was then starting to rack up surpluses in food-cuffs as a result of price supports from the European Community's Common Agricultural Policy. Gardini saw a big consolidation in European food production coming. Although trading would always be important—even today Ferruzzi controls 20% of the EC's grain exports—he pushed ahead in food processing. First he jumped into sugar, then soybeans and glucose, establishing Ferruzzi as Europe's biggest agribusiness group and a prime corporate beneficiary of the EC's multibillion agricultural budget.

Then, in 1985, Gardini began buying shares in his biggest strategic prize: Montedison, the bluest blue-chip company in Milan. He saw the untapped potential of the giant's businesses. Under the chairmanship of Roman business genius Mario Schimberni, the sprawling chemical, pharmaceutical, and financial services conglomerate became Italy's only U.S.-style public company. Unlike the traditional owner-

managers of Italian big business such as the Agnellis or Carlo De Benedetti, professional managers, reporting to more than 100,000 shareholders, called the shots at Montedison.

RIPOFF? By the end of 1987, Gardini held a commanding share in Montedison. But along with control, he inherited \$5.5 billion in debt. The cost of Ferruzzi's agribusiness buys increased Gardini's total debt load to almost \$9 billion. When the October, 1987, crash cut off fresh capital from the stock market, Gardini forced out Schimberni and took over the chairmanship of Montedison. Gardini's scheme to shuffle Montedison's assets saved him. The idea was to shift Montedison's valuable financial service company, IRI Iniziativa, to his newly created holding company, Ferruzzi Finanziaria, to help pay down Montedison debt. But some Montedison shareholders charged at the offer to swap shares for those in a company with no track record was a ripoff. Gardini was able to ram

the deal through—slashing debt by \$700 million—but not without getting branded as a ruffian who trampled over small shareholders.

His messiest run-in with investors, though, was on Wall Street last February. Arbitrageurs fumed when Gardini offered to buy shares in Ausimont, a \$475 million specialty chemicals company listed on the New York Stock Exchange, at a lower price than his bankers Morgan Stanley & Co. had earlier assessed. Gardini claims that big-time U.S. arbitrageurs were trying to milk him. Morgan Stanley says it played a standard advisory role in the transactions.

Whatever the case, the episode was another reminder that Gardini sometimes ignores market niceties to get what he wants. Even he admits to “never listening to lawyers.” Says a close adviser: “The fact is he doesn't pay too much attention to the rules, and he could have been savvier. But he gets things done.” Indeed, in spite of all the wailing, shares in Ferruzzi Group companies

have been among the stellar performers on the Milan Stock Exchange.

A big test for Gardini could come with the Enimont joint venture: Can he be a manager, not just a dealmaker? Shifting Montedison's bulk chemical assets to Enimont will allow Gardini to reduce Montedison's debt by \$2.6 billion more. But in exchange, he must share management and investment decisions with government partner ENI—and “it's just not in his philosophy to be in a joint venture,” says ENI Chairman Reviglio.

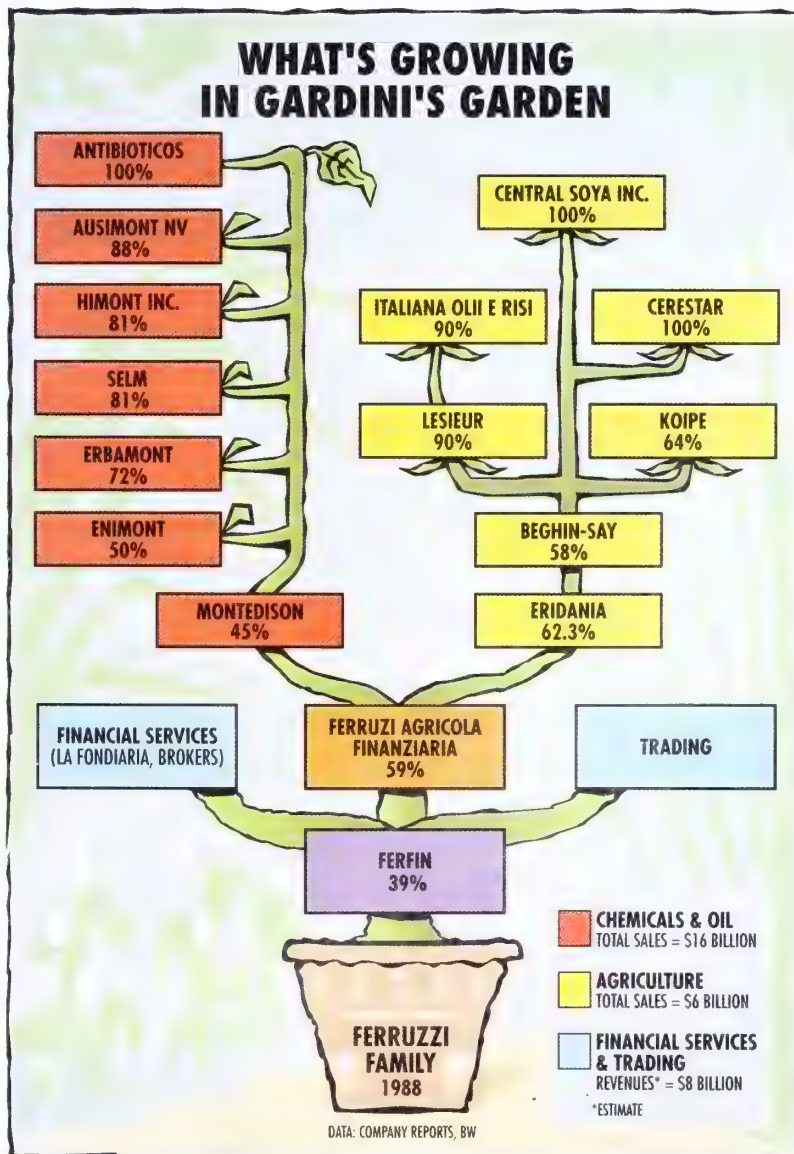
ONE-MAN SHOW? What's more, Gardini has no real organization behind him, giving his growing empire the feel of a one-man show. In contrast to state-owned ENI, Gardini's management is lean and gives Gardini the freedom to wheel and deal. But it could become a disadvantage on the global battlefield. While his major competitors in food and chemicals rely on battalions of MBAs to size up new markets, Gardini calls on a handful of advisers. Wherever he goes—to his palatial houses in Ravenna, Milan, or Venice,

his 50,000-acre ranch in Argentina where he retires for one month a year, or on his 80-foot yacht—there is a phone connected to his inner circle of eight people.

Although Gardini says his only ambition now is “to protect the businesses and make them competitive,” aides say there is something deeper: He wants to be Italy's top industrialist. He's almost there: Among private companies, only the Agnelli's Fiat group outweighs Gardini in sales. And 60% of that turnover is in Italy, while Ferruzzi Group is now by far the most powerful Italian presence internationally.

After all his gambling, can Gardini learn how to play it safe? Wonders a top aide: “How many times can you put your assets on the roulette table and still come out a winner?” With the sheer range and size of assets Gardini now has under his thumb, he has a lot more to lose if he throws it all away with a few unlucky rolls of the dice.

By John Rossant in Milan



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Commentary/by Paula Dwyer

THE BLOW TO AFFIRMATIVE ACTION MAY NOT HURT THAT MUCH

On the surface, it looks as if a dark day is dawning for civil rights. The Supreme Court, reflecting a new conservative majority, has issued a series of rulings that erect new barriers for minorities and women trying to use the legal system to redress discrimination in the workplace. Liberals are up in arms, fearful that two decades of progress are melting away. "The Supreme Court, sadly, has abandoned its historic role as champion of civil rights," laments Ralph G. Neas, director of the Leadership Conference on Civil Rights.

Conservatives, who hailed the rulings, also have been quick to claim the effects could be sweeping. "It means the business community must pick people based on merit," cheers William Bradford Reynolds, the Reagan Administration's civil rights chief.

NEW MOOD. The rightward tilt of the court is undeniable. But the string of decisions won't necessarily create a conservative revolution in the workplace. The justices "took some pressure off employers to have affirmative action, and they made it easier for whites and males to challenge it," says Peter C. Robertson, a human resources consultant. But, he adds, "the companies I've talked to are nearly unanimous in saying that their day-to-day personnel practices won't change.... The court has not changed the comma of the standards in place for private-sector affirmative action programs."

To be sure, civil rights have suffered setbacks in the past decade. During the Reagan Administration, proponents were forced to fight guard battles to protect gains in voting rights, fair housing, and school busing, as well as affirmative action. Activists blame the sporadic outbreaks of racial violence in the 1980s on the anti-civil-rights tone set by the powerful Republican right wing. And some com-

panies stopped keeping detailed records on personnel practices.

Civil rights, however, is one area where the Bush Administration wants to set itself apart from its predecessor. Unlike the Reaganites, the Bush forces won't attack the foundations of affirmative action. Justice Dept. officials say they don't intend to ask the President to rescind an Executive Order that requires federal contractors to adopt preferential hiring and promotion plans. Nor do they intend to challenge existing consent decrees, as Edwin Meese III's Justice Dept. did. Indeed, Labor Secretary Elizabeth H. Dole suggests that the Administration may support legislation to overturn some of the rulings.

Further, for much of the U.S. business

community, discriminatory policies don't make economic sense. Women, minorities, and immigrants will account for 80% of the growth in the labor force by the end of the century. Businesses that want to grow will have to rely on them. Even the Associated General Contractors of America, a construction industry group that has long opposed minority-hiring preferences, acknowledges the demographic writing on the wall. "You would be cutting off your nose to spite your face if you didn't have an active outreach program today," says Stuart Binstock, AGC's director of equal opportunity services.

What's more, big business consistently opposed the Reagan Administration's efforts to weaken affirmative action, partly because compliance gave it sure legal

protection against challenges to hiring practices. Whether this "safe harbor" will remain is unclear. But to avoid rocking the boat, such big employers as Motorola, Monsanto, and Merck say they will stand by their programs. "It's business as usual," says James D. Burge, a Motorola Inc. vice-president. Adds B. Lawrence Branch, Merck & Co.'s director of equal employment affairs: "Through the Reagan years, we managed to keep our affirmative action program afloat. I don't expect it to change now."

The Supreme Court decisions that triggered all the controversy addressed highly technical points of law. But taken together, they do represent a fundamental reshaping of civil rights law by Reagan's conservative appointees to the court. "For 20 years," says A. E. Dick Howard, a University of Virginia law professor, "there was a notion that both the Constitution and civil rights statutes ought to compensate for past discrimination." But now, the court is saying that minorities and women no longer need special procedural

Continued on page 62

FIVE CASES THAT CHANGE THE RULES

JAN. 23, 1989

RICHMOND VS. CROSON

The court ruled 6-3 that the Constitution limits the power of state and local governments to reserve a percentage of their business for minority contractors. The decision forced 36 states and 190 cities and counties to review their programs. Changes in these programs may be required if they include racial quotas or if they are not correcting well-documented past cases of discrimination



MAY 1 PRICE WATERHOUSE VS. HOPKINS

The court ruled 6-3 that employers must prove that their refusal to promote someone is based on legitimate business reasons, but it lowered the burden of proof to the weakest possible standard

JUNE 5 WARDS COVE VS. ATONIO

The court decided 5-4 that those bringing race bias charges must prove that the employer has no business reason for imposing the job requirement they are contesting. Reversing a 1971 precedent, the ruling also made it more difficult for minorities and women to win cases based on statistics that show disparities in the number of jobs held by white men and those held by women and minorities

JUNE 12 MARTIN VS. WILKS

The court ruled 5-4 that court-approved affirmative action settlements can be reopened when white male employees allege reverse discrimination

JUNE 15 PATTERSON VS. McLEAN CREDIT UNION

The court ruled 5-4 that an 1866 civil rights law does not apply to cases of racial harassment or other discrimination by an employer after a person is hired. But the justices unanimously declined to overturn a landmark 1976 ruling that said the original civil rights statute forbids discrimination in the making of private contracts

DATA: BW

Continued from page 61

rules to overcome America's legacy of discrimination. A key vote is that of Justice Sandra Day O'Connor, who once sided with the court's liberal wing on affirmative action. She now "seems to want a more level playing field," and has joined the five-justice conservative majority, Howard observes.

In an opinion involving Birmingham (Ala.) firefighters, for instance, the high court disagreed with several appeals courts and ruled that white employees can challenge court-approved consent decrees that favor blacks in promotions. Similarly, the court changed the rules of evidence for discrimination cases, ruling that it takes more than just data showing that minorities are underrepresented to force a company to defend its personnel practices. The plaintiffs now must prove that a conscious discriminatory selection process exists.

Even if a plaintiff wins, the justices said, the remedies a court can order must be carefully tailored. The court threw out a Richmond, Va., plan to set aside 30% of its public works dollars for minority-owned businesses, saying the city hadn't documented the past cases of discrimination well enough to justify as drastic a corrective measure as a quota.

UNPREDICTABLE COURSE. The court capped all this activity with a ruling that minorities no longer can use an 1866 civil rights law to seek damages for racial harassment on the job. This means civil rights plaintiffs must use Title 7 of the Civil Rights Act of 1964, which is more cumbersome and does not allow recovery of monetary damages.

The recent cases culminate a decade of efforts by the court to grapple with the question of how far judges can go to remedy discrimination without stepping on the white majority's rights. The struggle began in 1978, when the Supreme Court struck down a University of California medical school admissions plan that favored minorities. Since then, the court has sown confusion by issuing more than a dozen opinions, upholding some quotas while tossing out others.

What seemed to tip the balance in favor of the hardliners was the appointment of Justice Anthony M. Kennedy, a bedrock conservative, and O'Connor's change of heart. Kennedy has sought to minimize the significance of the court's rulings. "Neither our words nor our decisions should be interpreted as signaling one inch of retreat from Congress' policy to forbid discrimination," he wrote in the latest opinion. Despite what he says, there's no question that women and minorities will have a tougher time in court. But now that business views affirmative action as a competitive necessity, it just might not matter so much.

Information Processing

SOFTWARE

THE SPREADSHEET THAT NEARLY WORE LOTUS OUT

Release 3, the new 1-2-3, means the release from a nightmare

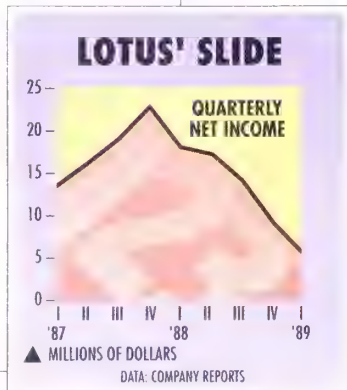


On the morning of June 19, about 200 programmers and marketing executives greeted a gleaming tractor-trailer out back of Lotus Development Corp.'s Cambridge (Mass.) headquarters. The truck was an hour late, and it took star software developer David P. Reed five tries before he cracked a \$5 bottle of champagne over the fender—all of which seemed fitting. Inside the truck were 5,000 copies of the latest version of Lotus' 1-2-3 spreadsheet program, called Release 3. After three years in development and a string of embarrassing delays, the product finally was out.

Customers who have seen Release 3, with its three-dimensional displays and ability to draw data from other programs, generally give it high marks. But because of the expense and time involved in switching from earlier

versions, most customers won't order more than a few copies at first. For many, changing spreadsheets will require buying powerful new PCs—"at a time when the industry has been grappling with the question of the payoff from personal computers," observes David Readerman, who follows software for Shearson Lehman Hutton Inc. Even Lotus isn't sure how many existing customers will trade up instead to Release 2.2, a technological compromise that can run on less-powerful PCs.

In fact, Release 3's biggest impact might well be the change it has wrought in Lotus. As the company struggled to get the product done, it recast the way it creates and sells software, rethought its strategic plan, and reorganized itself—several times. The often chaotic project became "a company-changing event."



ays chief executive Jim P. Manzi. Inside Lotus, the consensus is that the company has emerged a tougher, smarter competitor. Wall Street seems to agree: The stock has jumped 42% since Jan. 1, recouping much of a 57% decline occasioned last year when Release 3's delivery date was postponed three times.

Back then, to some extent, Lotus had run out of control. During the Release 3 project, it more than doubled its workforce, to 2,700 employees. Revenues kept growing—they will be up 28% to \$600 million this year—but costs grew, too. In

1987's fourth quarter, Lotus posted record income of \$22.9 million. By this year's first quarter, profits were down to \$5.3 million. And for nearly everyone at the top—except Manzi—there was hell to pay. Eleven executives left the company over two years. In their place, Manzi installed a team built around “the three Franks,” as they are known at Lotus: W. Frank King III, Frank A. Ingari, and Franklin H. Moss, all seasoned managers. King took charge of Release 3. Ingari, from Atex Inc., took over spreadsheet marketing. Moss heads efforts to move 1-2-3 from PCs to bigger computers.

‘THE EDGE.’ These managers brought skills that Lotus sorely lacked. Eighteen months ago, the Release 3 project was, if not directionless, close to it. It was by far the most ambitious product Lotus had taken on, requiring the attention of developers, vs. 2 for the original 1-2-3. At the time, programmers worked on their own, without detailed schedules or goals and with little sense of what others on the team were doing or how their part fit into the whole. “We skated on the edge a lot,” acknowledges Reed, the lead developer on the project.

So Manzi, often criticized for his weak grasp of technical issues, recruited King to head Lotus' core Software Products Group. A veteran IBM engineer, King brought with him the discipline and structure of the mainframe world. He demanded each programmer submit weekly schedules and progress reports and personally reviewed the code written or revised each day.

King borrowed another approach from the mainframe industry: From now on, Lotus developers will stay with their product after its completion. He says many of the programmers who worked on Release 3 will start soon on a new version, Release 3.1. With earlier ver-

sions, programmers scattered to new products after finishing their work.

Some of Lotus' Release 3 development problems reflect the growing complexity of software in general. It now must work on networks of PCs, mainframes, and workstations, across dozens of different technical standards. Many programs include a so-called graphical interface that makes software easier to use

but harder to create. Michael J. Maples, vice-president for applications products at Microsoft Corp., says that's why the latest version of Microsoft's word processing program, Word 5.0, arrived four months late and required 10 times as much computer code as the original version developed nearly six years ago.

To cope, Lotus' big rivals are also making organizational changes. “We’ve

JIM MANZI IS ENROLLED IN NICENESS 101

For Jim P. Manzi, 1988 was the worst of times. Wall Street faulted Lotus Development Corp.'s chief executive for repeated delays in delivering his company's newest spreadsheet and for Lotus' apparent lack of technological direction. Employees were put off by Manzi's coldness. His relations with the press, always uneasy, reached their nadir when a *Boston Globe* columnist described Lotus as a “fish... rotten at the head,” after which an enraged Manzi ordered his staff to shut out the paper. It didn't help that Manzi, 37, had pulled down \$26.3 million in 1987 compensation, \$25.4 million of it in stock options.

Every boss has rough edges, but Manzi's image was even hurting sales, some Lotus executives felt. So there has been a concerted effort to mellow him out. “The first thing I told him was, ‘It's time to relax. Just be yourself,’” says Heidi Sinclair, the publicist Manzi hired last year.

So now there's a new Jim Manzi, an intriguing combination of conflicting traits. There's the sensitive Manzi, portrayed by insiders as a private person thrust into a public role when Lotus prospered and wounded to the quick when bad news hit. “Jim went through a wrenching self-examination,” says Chester A. Suida, a Lotus director. But not so wrenching as to replace his famous arrogance with absolute humility. Recently, for instance, Manzi referred to his purge of eight of Lotus' top 17 executives in the past year as “clearing away the underbrush.”

BIG PAY CUT. Manzi is working hard to prove that such lapses are aberrations, that he really deserves a better image. Although he dislikes industry conventions, he attends them more often. And he's giving more interviews. He still draws a strict line between office and home, but now, on occasion, he mentions his wife and two kids.

Manzi also concedes that “I need to

be more sensitive” to how he is perceived within Lotus. Employees remember the company's 1987 yearend party when “he stood around, didn't talk to anyone, then left,” says one. Manzi has also been known to humiliate employees at meetings with bitter sarcasm or biting criticism. These days, Manzi says, he's trying to make friends at work by strolling around the office, dropping in on more meetings, and inviting workers to tell him what



MANZI: “I NEED TO BE MORE SENSITIVE”

they think. He has even taken a pay cut—to \$550,000. Now, everyone is watching to see if the revolving door on the executive suite will stop spinning.

Niceness, though, only goes so far. Ultimately, Manzi will be judged by the company's performance. With Release 3 of 1-2-3 out the door, Wall Street will watch Lotus' spreadsheet market share very closely. And Manzi has to deliver a host of promised new products, such as versions of 1-2-3 for Apple Computer Inc.'s Macintosh and IBM's mainframes.

If Wall Street likes what it sees, Lotus' image will improve, and the pressure on Manzi will be off. What will he be like then? One analyst, at least, isn't taking any chances. He skewers Manzi for “screwing up,” then immediately asks for anonymity. Otherwise, he says, “Jim will never talk to me again.”

By Keith H. Hammonds in Cambridge, Mass.

gone from an industry of gunslingers and commandos to the invasion of Normandy," Maples says. Microsoft, the leader in PC software, has invested heavily in tools that help automate the programming process. In the wake of operating glitches that delayed the shipment of Ashton-Tate's dBase IV by three months last year, that company has revamped its debugging procedure.

At Lotus, programming problems on Release 3 led also to marketing problems. Sales began to lag in 1988 as customers stopped buying regular 1-2-3 in anticipation of the new product. Lotus slashed prices at the end of each quarter, hoping to boost revenue with heavy orders. But the strategy backfired. Dealers and distributors ordered most heavily when the price was lowest. In 1988, Lotus' gross margins fell two points, to 80.6%.

Now, Lotus is trying to discourage cutthroat competition—with mixed success. Last winter, it cut the margin it gives retailers on new products by five points, to 40%, then added incentives to help dealers provide better service and training needed to attract more customers. That boosted sales but not as intended. "What people are doing is not adding the service, keeping prices low," and pocketing the incentives, says Charles Schwartz, president of Software Solutions, a reseller in New York City.

JOB FREEZE. That helps explain why costs are still growing faster than revenues. Marketing expenses rose to 36.4% of sales last year, from 32.1% in 1987, and analysts expect them to stay there through 1990. The analysts expect earnings to rebound in 1989 as customers upgrade to new 1-2-3 versions at \$150 a shot. And this month, Lotus froze employment at current levels.

Has the Release 3 experience made Lotus a better company? Probably. At least, Lotus has identified its worst problems. But it has plenty to do. It still has no viable product for Apple Computer Inc.'s Macintosh. Despite years of proclamations, in fact, it has failed to deliver new versions of 1-2-3 for any computer but the IBM PC and compatibles. Only last month did it deliver a reasonably priced version of 1-2-3 for use on PC networks. And customers complain that Release 3 doesn't include Allways, an add-in program that creates higher-quality printouts.

Indeed, Manzi compares Lotus to a teenager just out of puberty. The kid has started shaving. And he's dating girls. The real question now, Manzi jokes, is "what he's doing on the dates."

By Keith H. Hammonds in Cambridge, Mass., with Geoff Lewis in New York and bureau reports

THE CHIP OF TOMORROW —IN YESTERDAY'S MACHINE

IBM flexes its technological muscle by retrofitting the PS/2

It has been nearly five years since IBM got to market first with a PC incorporating Intel Corp.'s latest and fastest microprocessor. That machine, the PC/AT, was a hugely successful follow-up to the original IBM PC. But since then, competitors have shipped personal computers using the latest microchips months ahead of Big Blue—sometimes many months. In some businesses, that might not matter much. It does in PCs. Since IBM lost the technology lead, its world share of PC revenues has dropped from 24.5% to 13.9%, according to Dataquest. Compaq Computer Corp., which most often beats it, has tripled its sales since 1986, when it produced a PC using Intel's 80386 chip nine months ahead of IBM.

On June 20, IBM made it clear that it no longer intends to be the technology follower—or the market-share loser. Led by James A. Cannavino, the recently appointed head of its Entry Systems Div., Big Blue became the first company to announce a product using the i486 microchip—a new Intel chip that crunches data up to twice as fast as the fastest 80386. It isn't really a new computer. Instead, it's an upgrade kit that lets owners of the most powerful IBM PS/2s swap the 80386 chip in their machines for an i486. The upgrade is \$4,000. But a \$2,300 price cut in the PS/2 Model 70-A21, on which it works, yields an i486-based PC for \$13,000—just slightly more than a top-end 80386 PC.

FACTORY FOUL-UPS. "I think this is a play to show that IBM can still do technology," says Aaron Goldberg, an analyst with International Data Corp. "They're trying to say that they're not following." But the practical effect is difficult to assess. While the potential upgrade gives IBM's machines an advantage over other 80386-based PCs, Goldberg figures only 10% to 20% of Model 70 owners will upgrade. The 20% price

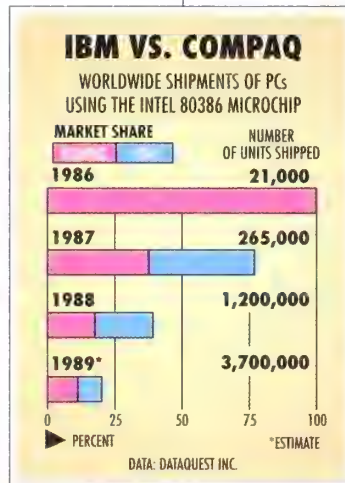
cut, he says, is more important. The Model 70-A21 has been IBM's best-selling 80386-based PC. But manufacturing problems shut down its production line early this year. And recently, IBM discovered a defect in disk drives that, Cannavino says, will affect about 15% of A21s shipped. These setbacks, and a lack of IBM machines to match Compaq's top models, have led Dataquest to predict that Compaq will retake the lead in the 80386-based PC market (chart).

Moreover, IBM's lead in the i486 market is far from assured. The IBM upgrade won't be available until sometime in the fourth quarter when Intel begins shipping the new chips. By yearend, Compaq is expected to have an entirely new computer based on the i486. That machine, and others designed from scratch for the new chip, are expected to use faster components than IBM chose for the Model 70 when it was designed in 1987. With IBM's promised upgrade, "you'll get a free call option to

buy a 486," says Daniel C. Benton, an analyst with Goldman, Sachs & Co. "But it won't run as fast as a true 486 box."

Even so, at least for the moment, IBM has created the impression that it is once again in the lead. As word of IBM's i486 coup leaked out, Compaq's share dropped five points between June 14 and June 16. After recovering a bit on June 19, they dropped 1½ on the day of IBM's announcement, to 92½. Still, says Kimball H. Brown, an analyst with Prudential-Bache Securities Inc., IBM missed chance to deal Compaq a real body blow. Had Big Blue announced a new PC that was available immediately and matched Compaq's top 80386 machine, "Compaq's stock would have tumbled 10 points," says Brown. Until IBM can pull off that kind of victory, its claim to technical leadership in PCs will remain in question.

By Geoff Lewis in New York



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TAKING CHARGE

CORPORATE DIRECTORS START TO FLEX THEIR MUSCLE

"There is one thing all boards have in common... they do not function."

—Peter F. Drucker, in *Management: Tasks, Responsibilities, Practices*

Tell that to Edwin H. Shutt Jr. As he convened a board meeting last Feb. 9, the head of Tambrands Inc. did not know it would be his last. The sanitary-products maker wasn't in trouble, though it was wobbling: Its market share had slipped, its stock had stalled, and Shutt had so far succeeded at diversifying only its sales, not its profits. Hard-nosed and temperamental, Shutt had clashed with directors before. But they had hired him in 1981. They had promoted him to chief executive in 1982, and then to chairman in late 1987. If he had some detractors, well, his supporters outnumbered them.

On this cold, cloudy Thursday, however, the minority somehow shifted to a majority. Although neither Shutt nor the directors will disclose exactly what happened in the boardroom, by the next day, Shutt was out. Honorary Chairman and former CEO E. Russell Sprague took charge while directors searched for a successor. "The board did a good job of putting the interests of shareholders first," says one member of the board.

And Shutt isn't the only surprised CEO these days. It may be premature to say

that management guru Drucker's put-down of boards, written some 15 years ago, is passé. Many corporate boards continue to rubber-stamp just about anything management proposes. But more and more boards around the country have begun to watch out for shareholders as never before. In short, they are actually performing as they are, in theory, supposed to—but seldom have.

In the past two years, boards at Alcoa, Pillsbury, United Airlines (then Allegris), and Mellon Bank are among those that have replaced their CEOs. The action has been even more dramatic in takeover situations. Last fall, the RJR Nabisco Inc. board, an extremely docile one, was so riled by CEO F. Ross Johnson's plan to take the company private that it rejected his \$25 billion offer in favor of a similar deal from Kohlberg Kravis Roberts & Co. And many experts believe that Time Chairman J. Richard Munro, who is currently fighting a bid from Paramount Communications Inc. and wants to merge Time Inc. with Warner Communications Inc., may soon lose the reins of power to a committee of outside directors. They will then decide which deal is best for shareholders.

If that were all that's happening in the boardroom, it would be significant. But the change doesn't stop there. Quietly, many boards are asserting them-



selves—redirecting strategy here, vetoing an investment there. That's happening not only at ailing companies such as Control Data and Texas Air but also at healthy ones. For example, AMR, parent of American Airlines, CEO Robert L. Crandall is under fire from two directors for not paying enough attention to shareholders.

There are even signs of life on General Motors Corp.'s board, a perennially passive panel that in 1986 backed management's controversial plan to pay \$70 million in hush money to rid the board of H. Ross Perot and buy back his stock. Last year, directors vetoed Chairman Roger B. Smith's plan to seat three directors drawn from GM's management ranks and boost insiders from 33% of the board to 40%. "It would have sent the wrong message," explains GM Director



TALES FROM THE BOARDROOM

SOME BOARDS ARE SHOWING A NEW ASSERTIVENESS...

ALCOA To refocus on aluminum, the board engineered the ouster of CEO Charles W. Parry in 1987 and installed a fellow director, Paul H. O'Neill, an International Paper executive

MELLON BANK Stunned by bad loans that caused the first quarterly loss in Mellon's 118-year history, the board requested the resignation of CEO J. David Barnes in 1987

OAK INDUSTRIES After pushing unsuccessfully for reforms, Director Roderick M. Hills launched a proxy fight to unseat CEO Edward L. McNeely and four other directors. On June 6, he won

SYMBOLICS With losses piling up, directors hired a cost-cutting CEO in late 1987 and assigned founder Russell Nofsker to product development. When the two disagreed—and the stock lost more than 90% of its value—the board ousted them both and hired a new CEO

...SOME ARE STARTING TO LOOK MORE INDEPENDENT...

CONTROL DATA The board bolstered management under CEO Robert M. Price by vetoing the appointment of Lawrence Perlman as chief operating officer last December. It charged Perlman with fixing CDC's ailing computer business

MERITOR FINANCIAL A huge loss in 1987 led four investors led by Frank P. Slatt to



Imund T. Pratt Jr., CEO of Pfizer Inc. "There's no question boards are more involved today," says Kenneth A. Locke, CEO of Dayton-Hudson Corp. They are thinking through the process of corporate governance—what they're responsible for—and going into more detail about it." Even Drucker concedes that things are changing a little, though he contends that boards truly work well only "in the case of a catastrophe."

SEAT. Chalk up a large part of this change to outside pressure. Lawsuits charging directors with dereliction of duty are swelling in number and in breadth (page 72). The threat of hostile takeovers has prompted directors to concentrate on boosting shareholder value. And institutional investors, who now control so much stock in so many companies that they can't easily sell out, are

beginning to flex their muscles. Frustrated by their inability to influence management via the proxy voting system, they are starting to turn their attention to outside directors.

Together, these forces are coming together in a way that is reinventing the corporate board. And there are more reforms to come. Some critics of boards are beginning to sketch the issue as one of great moment for the U.S. economy. Concerned about flagging competitiveness, they are pushing for more active boards on the theory that they will exact better corporate performance. To bolster the board's independence, some advocate strengthening the role of the committee that nominates outside directors or establishing a mechanism for them to meet separately. Some say the job of CEO and chairman should always be

split. Still others want to build on the headway already made by commissioning a regular "management audit."

To be sure, some of the apparent progress is merely symbolic. Fighting off raider Carl C. Icahn in a proxy battle for control of Texaco Inc. last year, CEO James W. Kinnear promised the California Public Employees' Retirement System that, in return for its votes, he would nominate a director from a list of candidates submitted by CalPERS. Early this year, he did so, proposing the election of New York University President John Brademas. But few people believe that the former congressman will really make Texaco more sensitive to shareholder concerns. Likewise, following Exxon Corp.'s disastrous oil spill in Alaska in March, public pension funds led by the New York City Employees' Retirement

board seats in spring, 1988. They ousted Derrick S. Hammer, persuaded banker Philip H. Hillas to take the post, and scaled back their thrift to its Philadelphia roots.

CEO Frank Lorenzo's iron grip on any slipped a bit last year when Director R. Pohlman forced Lorenzo to consider the Eastern Airlines subsidiary.

OTHERS STILL SEEM LIKE BER STAMPS

BERG. At what was then called Diamondrock, directors allowed free-spending

CEO William Bricker fabulous perks even while he failed at his strategy of building a major energy company. Meanwhile, the company was losing 60% of its market value. Bricker resigned in 1987, but his hand-picked board remains, making no apparent major changes.

PITTSBURGH. For five years, this old-style conglomerate—in coal, security services, and air freight—hasn't paid a dividend. Some shareholders, led by the United Mine Workers (which is striking the company), want the board to establish a committee of outside directors to consider divestitures. But the proposal was defeated in a May proxy vote.

SOUTHBURY. Dissident shareholders had to fight to add three new directors at this ailing company. Its board had allowed former CEO Eugene Phillips to pyramid debt issues to finance risky real estate deals, causing a loss of \$1 billion in the first quarter of 1989 alone. A new CEO plans to recapitalize the company.

SUNDSTRAND. Chairman and CEO Evans W. Erikson resigned under pressure last year after the company pleaded guilty to defense fraud. But for years, Sundstrand's lavish spending and lax financial controls went unquestioned by directors—leading the Defense Dept. to take on oversight responsibility.

ment System pushed Exxon to put an environmentalist on its board. On May 11, the oil giant agreed.

The Securities & Exchange Commission took a similar tack, with perhaps more teeth, at scandal-ridden Drexel Burnham Lambert Inc. To tighten up what it viewed as lax management, the commission demanded that Drexel seat three SEC-approved outsiders on its board—and Drexel is a private company. As part of Drexel's settlement of securities fraud charges, the trio will comprise a committee that oversees compliance with laws and internal controls.

HARD QUESTIONS. Every time something like that—whether symbolic or substantive—happens, two points are reinforced: Shareholders are reminded that boards exist to be a check on management, and directors are put on notice that they're being scrutinized carefully, too. And now that directors are earning fatter and fatter fees—and even pension benefits and golden parachutes—shareholders are more likely than ever to step up the pressure on them.

One group of shareholders—the Council of Institutional Investors, whose members include the country's biggest public pension funds—is organizing along those lines. In its recently launched Directors Project, CII wrote five companies—Sears, Emerson Electric, SmithKline Beckman, American Greetings, and Scott Paper—asking to meet with management. Along with the missive went a three-page list of questions that might lead to reforms in board composition and practices.

The initiative, while preliminary, “reflects our members’ understanding that we should not be trying to second-guess management,” says Sarah Teslik, CII’s executive director. Yet, as major shareholders, CII members believe they have no choice but to question whether boards work properly. “Our goal is to ask if there’s anything we can do to make [the system] work better,” Teslik says. In the future, boards can also expect direct contact from CII when problems arise.

More important, legal standards for board behavior are being set. Under the so-called business judgment rule, directors have enjoyed wide latitude to decide what’s in the best interest of shareholders and to act accordingly. But in several rulings pertaining mainly to takeovers, “courts have begun to articulate the process boards have to go through

to be credible,” says attorney Ira Millstein, a corporate governance expert at Weil, Gotshal & Manges in New York. Sooner or later, he believes, “it will occur to people that the very same standards that apply in emergency situations also apply in everyday matters.”

At the same time, the legal profession is proceeding toward its goal of codifying directors’ roles and responsibilities. In a decade-old project that has many executives up in arms, the American Law Institute is trying to spell out procedures for the boardroom. The result, some say, will be an even greater proliferation of lawsuits against directors and an unhealthy adversarial relationship between directors and the CEO. Arguing against such tampering, Pfizer’s Pratt, who also chairs the Business Roundtable, has penned a white paper against ALI’s reforms called *A Radical Cure for a Healthy Patient*. Says Pratt: “We think the way the board works is about the best way there is right now.”

HORROR STORIES. But even though some boards today are getting more vigilant, there’s plenty of evidence to contradict Pratt. Horror stories of board behavior abound. A classic example: Allegheny International, where former CEO Robert A. Buckley loaded the company with debt from about two dozen acquisitions and used corporate funds to invest in risky energy and real estate ventures. He grew increasingly erratic—for example firing people indiscriminately and sometimes later rehiring them. To top it all off, he lavished perks on himself and other senior executives.

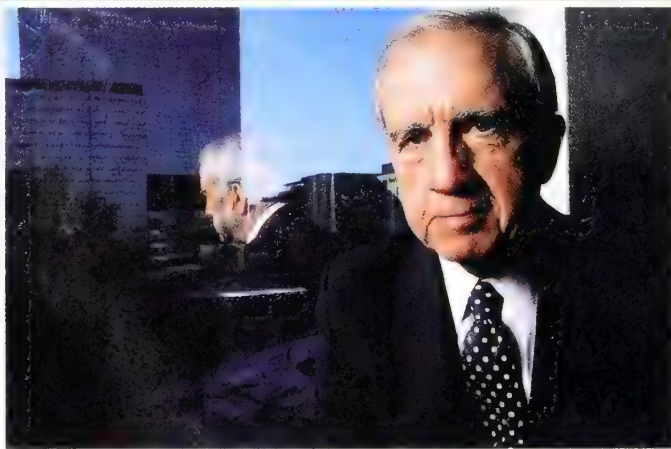
According to one director’s sworn testimony to the SEC, Allegheny’s board considered replacing Buckley as early as January, 1985. But the directors dithered until BUSINESS WEEK cover story on AI’s troubles hit the newsstands on Aug. 1, 1986. The board fired Buckley on Aug. 8, and Allegheny later declared bankruptcy.

The situation is not as dire at National Intergrupp, but it’s a clear case of inaction

CARL POHLAD SPEAKS SOFTLY—AND OFTEN GETS HIS WAY

Director activism doesn’t have to be of the breathing-down-your-neck sort. At Texas Air Corp., Carl R. Pohlad is showing that one can influence even fiercely independent types like Frank A. Lorenzo. It was Pohlad, a mellow multimillionaire from Minneapolis and a 22-year veteran of Texas Air’s board, who got Lorenzo to consider selling his Eastern Air Lines Inc. unit last spring, before it declared bankruptcy.

For months, Texas Air directors had been pushing Lorenzo to smooth Eastern’s labor relations. Finally, Pohlad told Lorenzo: “Either we work it out with the various



unions, or maybe we had better sell it.” But Pohlad didn’t hound Lorenzo in the boardroom.

Craftily, he first introduced Lorenzo to Peter V. Ueberroth, the former baseball commissioner, getting the two together for dinner several times. Then a sale was broached. The bait was taken: In April, Lorenzo agreed to accept a \$464 million bid from Ueberroth for Eastern. That deal fell through when unions insisted that a trustee, not Lorenzo, run Eastern until Ueberroth took control. But now rumors are swirling that Pohlad is working on Lorenzo to sell all of Texas Air—to none other than Ueberroth. Pohlad will say only that “somebody has made an inquiry whether or not Texas Air will be for sale.”

Pohlad doesn’t believe directors should meddle in company operations. He says their prime responsibility is selecting the CEO. “If they don’t produce the results, you change management,” he says. Pohlad still has his say. “But he says it quietly,” notes Curtis L. Carlson, whose Carlson Cos. owns the Radisson Hotel chain and who has had Pohlad on his board for 31 years. Such pussycat techniques coupled with behind-the-scenes activism may be the best way to tame tigers like Lorenzo.

By Russell Mitchell in Minneapolis

DIRECTORS SHOULD PICK THE CEO—THEN LAY OFF

When the CEO just isn't performing. Since 1980, Howard M. Love has been promising that his diversification beyond steel would yield "superior" returns to shareholders. Instead, his moves into oil, oil services, and drug distribution have helped rack up \$532 million in cumulative losses—and every top executive has resigned or been axed except Love.

Yet one former inside director admits that "the board knows he's not a good manager in certain areas." He says directors haven't ousted Love because their hearts get in their way. In other words, old-fashioned cronyism. Seven of U.S. Steel's 10 outside directors have longtime social or business links with Love or his family. Until lately, they've gone along with every step of his strategy, rarely challenging its faulty implementation.

In March, directors ducked again. Since coming to U.S. Steel in February, 1988, President Larry Farley had been trying to straighten out its finances and troubled operations. But when Farley argued that he should be named CEO and Love should be retained as chairman, directors cast their lot with Love. After two weeks of intense debate, they fired the guy who is loathable to shareholders and kept the guy who is their friend," observes the former director. There is one promising sign, though: Directors recently gave Love a year to produce results, or he's out.

For Love, he contends his board has always been vigilant and that his diversification will succeed, long-term. The list of board failures could go on. It would include much of the savings and loan industry, which has been riddled with unscrupulous practices and unwise lending policies. Charges Jack D. Smith, deputy general counsel of the Federal Home Loan Bank Board: "Many times, directors voted unanimously for everything management proposed, and management was riding them down the garden path." The FHLBB has ousted the directors of 135 failed thrifts.

Then there are defense contractors, also rife with scandals that boards might have prevented or squelched. Di-

rectors can't always know what's going on at lower levels of a company, but at Sundstrand, for one, lavish spending and lax financial controls went unquestioned for years by directors—despite warnings of questionable business practices from whistle-blowing employees as early as the mid-1970s. Last year, the company pleaded guilty to defense fraud and agreed to pay the government a record \$200 million. It also ceded much of the

oversight normally accomplished by directors to the Defense Dept.

Almost as troubling are the signs of potential problems that directors often let pass without question, let alone action. In 1987-88, while performance was sliding at U.S. Shoe Corp., nearly 25 top executives quit. But the exodus didn't come up in the boardroom. "It was not a board matter," says one director. It took months for the board to act—and then only when it became apparent that U.S. Shoe's operational outlook was dismal at best and takeover rumors were rampant. Last August, the board said it would explore all alternatives, including sale of the company, to "maximize shareholder value." Though no sale has taken place, the company's performance has improved.

Yet the fact that boards at NII and U.S. Steel are acting at all is testimony to the changed climate in the boardroom. The trick now is getting other boards up to that speed—and beyond. How can lazy boards be turned into good ones? And how can boards be made to act before catastrophe strikes? Few would disagree with the characterization of William R. Laidig, CEO of Great Northern Nekoosa Corp.: "Boards are an imperfect mechanism." Former U.N. Ambassador and board member Donald F. McHenry observes that often the outsider's "responsibility is greatest when things seem to be going well. There may be complacency among those who are on the inside, and the outsider is supposed to guard against that."

BULLY BOYS. Writing a prescription is tricky because boards, like the companies they oversee, have different cultures. Nekoosa, for one, has a tradition of unanimous decisions, which looks suspiciously like a rubber stamp. Laidig claims the opposite is true. "We withdraw or delay anything that has negative comments until we can get a unanimous vote," he says. A major capital spending proposal, for example, was withdrawn when two members of the board "called into question the assumptions." Management agreed to rethink the proposal, eventually dropping

DOUGLAS DANFORTH DOESN'T JUST FILL A CHAIR

With seats on seven major corporate boards, Douglas D. Danforth is just the kind of professional director some board critics berate. In his case, though, they might reserve judgment. "I'm not bashful about expressing my views," says the retired chairman and CEO of Westinghouse Electric Corp.

Danforth, as director, has been deeply involved in strategy at Primerica, superregional bank PNC, and Rubbermaid. But he has been most outspoken—and influential—at National Intergroup Inc., whose move into drug distribution is floundering. Former directors say the folksy,



hands-on Danforth has prodded an inbred, passive board to demand results from CEO Howard M. Love.

■ BOARDS NEED OUTSIDERS WITH INITIATIVE

All that experience has given Danforth strong opinions about boards. His own board at Westinghouse had no insiders other than himself—a goal he says most boards should pursue. And he believes directors should be initiating ideas rather than merely reacting to the CEO's plans. At Whirlpool Corp., for example, he says it was the board that started thinking about the globalization of the consumer products industry—and prompted the company's 1988 purchase of 53% of Philips' appliance business. "Boards can't affect short-term results," he says. "They should concern themselves with the long term."

How best to do that? Danforth thinks the boards of technology-driven companies should create a research-and-development committee. Whirlpool has one: It visits the company's research center twice a year and hears presentations from R&D chiefs. Directors probe whether funding is adequate, if projects are going down the wrong alley, and whether Whirlpool should put "all of its guns behind accelerating a product's development." Such a measure could help improve U.S. competitiveness.

By Gregory L. Miles in Pittsburgh

ping it. Other companies, such as Pfizer, want the negative votes recorded. Pratt says that he has been voted down on items as significant as acquisitions and financings.

Voting, of course, isn't the only issue. The boardroom must be a forum for free discussion. Yet some CEOs stifle dissent. Others avoid controversy by tabling issues or lining up outspoken supporters for their plans before the meeting. A candid exchange of views at committee meetings and outside the boardroom is even more important than what happens at meetings—and that can't be mandated. As Paramount CEO Martin S. Davis said in an interview before he bid for Time: "To get better boards, we have to have better CEOs."

Still, plenty of people have suggestions that could make for better governance. Sara Lee CEO John H. Bryan Jr. is one of many who diagnose the key issue as "the problem of the club." His answer? "You've got to have people with independent reputations. There is a much greater chance they'll take on management and defend shareholder interests."

The theory contains an element of truth. For example, by most accounts, it was shortly after Douglas D. Danforth, then chairman and CEO of Westinghouse Electric Corp., was added to the board of Love's admirers at NII in 1986 that it began to wake up. And financier Carl R. Pohlad, who cuts a wide swath in Midwestern business circles, is the man trying to sway Frank A. Lorenzo at Texas Air.

WINDOW DRESSING. But name-brand directors aren't enough. Allegheny International's board was slow to act even though it was studied with celebrated names, including H. J. Heinz Chairman Anthony J. F. O'Reilly, former Secretary of State Alexander M. Haig, and Carnegie Mellon President Richard M. Cyert. Sundstrand's board included many notables, too.

Paradoxically, there are some sources who believe that the 1970s push to broaden board membership beyond

executives to community leaders, educators, scientists, women, and blacks didn't really help. Some are window dressing—witness Revlon Group Inc.'s recent choice for director, Nancy Reagan. Some newly minted directors just aren't knowledgeable enough about the workings of corporations to take active roles or to see through obfuscations. Many

who are qualified are in such demand that they have signed on to more board than they can conceivably handle.

That's one reason why, as demands on directors grow, the Council of Institutional Investors has a solid recommendation: Corporations should consider restricting their director recruitment to candidates who would limit their other board commitments.

Beyond that, there's a need to break the strong allegiance between a director and his CEO without creating an adversarial environment. At bare minimum, the CEO should not be the key selector of directors. That's a chore for a nominating committee dominated by outsiders.

Carnegie Mellon chief Cyert, who admits to being chastened by the Allegheny debacle, also believes that the nominating committee should periodically review the contribution and commitment of each director, a course favored by 55% of the outside directors recently surveyed by Korn/Ferry International (but by only a third of the CEOs). "Those who aren't performing should be asked to leave," Cyert says.

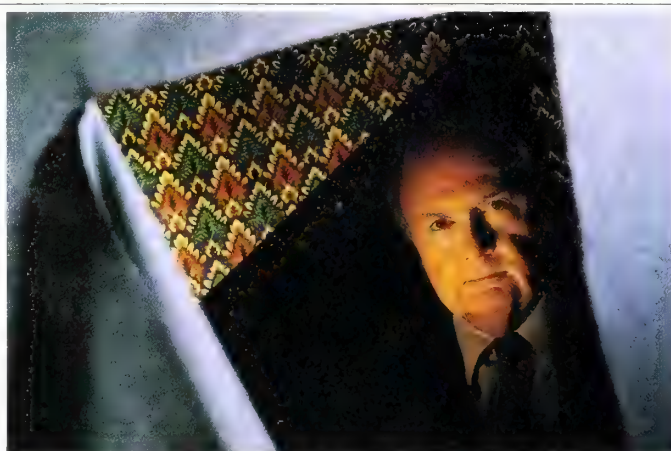
NO NEWS. Shareholders, too, should have a role in scrutinizing director performance. Attendance, for one thing, could be published in proxy statements. So could the other board commitments of directors. Institutional shareholders could attempt to identify ineffective directors and vote them out. They could continue to press for confidential proxy voting and ballot counting by outside auditors. And they should complain when companies have boards that are too small—some get away with as few as four directors—or too big. More than 20 is probably too many, no matter how big the company.

Assuming the right people are on the board, they have to have the right information—a key problem in some companies. Directors do not claim that was the issue at Mellon Bank Corp., where in 1987, as it posted its first loss in its 118-year history, the bank engineered the resignation of CEO J. David Barnes. Directors

ROD HILLS ISN'T AFRAID OF A SCRAP

For four years, we never had a satisfactory board meeting," says Roderick M. Hills of his experience as a director at ailing Oak Industries Inc. Still, Hills was surprised when Oak Chief Executive E. L. McNeely told him in April that he wouldn't be renominated. That's what started the former chairman of the Securities & Exchange Commission on his proxy battle to unseat five of eight directors at the electronic parts manufacturer, including McNeely. On June 6, Hills won.

It isn't the first time Hills has crusaded for more corporate accountability—and it's unlikely to be the last. His



first effort came in 1976, after several companies were found to be paying bribes to gain overseas sales. Then at the SEC, Hills decided that audit committees composed solely of outside directors would help check such illegal behavior. He got the New York Stock Exchange to impose that requirement on listed companies. More recently, Hills was named to the board of embattled Drexel Burnham Lambert Inc. and its special oversight committee.

Hills is a veteran of several boards—currently Federal Mogul besides Oak and Drexel—as is his wife, U. S. Trade Representative Carla A. Hills, who sat on six corporate boards until her appointment. He pushed for two years for changes at Oak, but his suggestions went unheeded. Oak was still losing a bundle on continuing operations. With no end in sight, Hills decided to fight.

Hills believes directors should pay more attention to a company's stock price. If a company is undervalued, they owe it to shareholders either to inform Wall Street better or to replace management. The takeover game is persuading directors of big companies to do just that. Now, Hills says, the key issue is getting the 10,000-odd publicly listed companies up to the same standards as the top 1,000.

By Tim Smart in Washington

CRUSADING FOR MORE CORPORATE ACCOUNTABILITY

ers met just four times in 1985 and five times in 1986. They knew the bank had problem loans. But, says one, "the depth of the problems surprised me."

A few months before Barnes reported the somber news, two representatives of the Mellon family began to work for change. Then, in the weeks following, the director tried to find out the bank's true condition: Donna R. Ecton, then a vice-president of Campbell Soup Co., even called bank officers, a tactic recommended only in time of crisis.

But directors can demand more information from the CEO—and they can call for sound analysis, as well as numbers, and ask that the information be delivered in time for more than a quick perusal. More than one outsider complains of thick packages of data arriving just a few hours before the board meeting.

Directors can also take a greater role in corporate strategy. That's just what happened at Control Data a few years ago when the computer company began to run into real troubles. Says director Richard G. Lareau: "We said we would like to be more involved in strategic decisions—for example, in computer business strategy." Now, Lareau says, before the board meets formally on a Friday, it will spend Thursday afternoon and evening studying a business sector, such as computer peripherals, or an issue, such as efforts to improve quality. If CEOs won't agree to such measures, constitutional changes may be necessary. Lareau proposes electing an outside director to a position such as vice-chairman. He would be paid more, given the role of a spokesman, and would be expected to spend at least one day a month at the company in an office where employees would feel free to discuss inefficiencies, and, or other potential problems.

Paul W. MacAvoy, dean of the University of Rochester business school, has another idea. He believes the first step in reforming boards could be improving the audit function of the outside accounting firm. "It might include more up-to-date and incisive material, and it could audit not just financial results but the management process—almost a 'management audit,'" MacAvoy says.

LIT DECISIONS. Cyert instituted a similar kind of audit at Carnegie Mellon. "I knew I could snow [trustees] since I had their ear and I could balance the budget," he says—just as directors can be ignored or left in the dark. He has been through three reviews by a committee of trustees and faculty. As a result, he says, "I changed my method of decision-making. I tended to be much more autocratic. Now, I do a better job of trying out ideas on a number of people before making a decision."

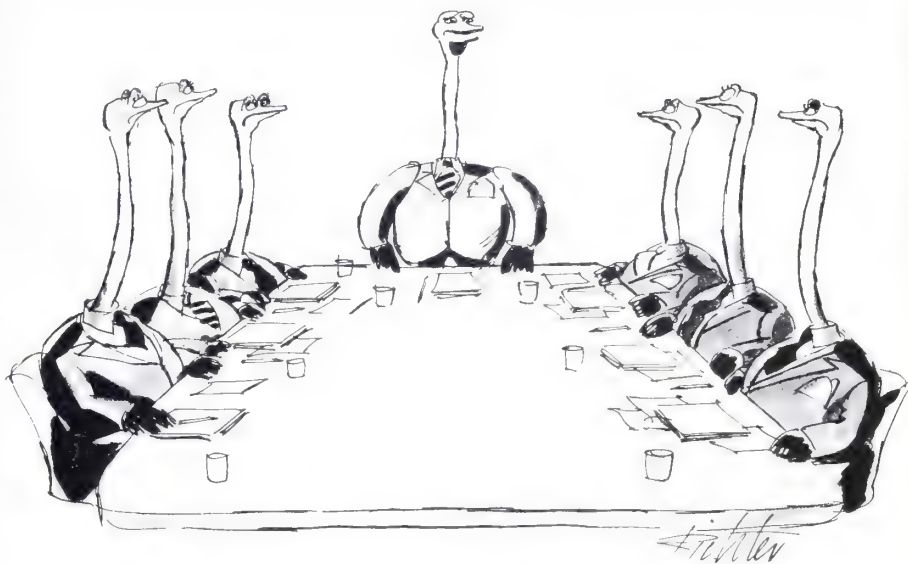
Others propose that the job of chairman of the board be split from that of

CEO. The chairman, after all, controls the board's agenda and makes committee assignments, so a CEO/chairman can stack key panels on compensation, nominations, and audits with cronies. Says Campbell Soup Chairman Robert J. Vlasic: "There's an inherent conflict of interest when the CEO, the man who works for the board and is evaluated by the board, is also the chairman of that group. It's a little like working for yourself." At the insistence of the Dorrance family, which controls the company, Campbell has always separated the jobs. Vlasic believes "the chairman should concentrate his efforts on shareholder relations and manage the board of directors while the CEO runs the business."

CEOs generally claim that the split isn't

view the CEO's performance and to discuss succession plans. The directors felt free to comment more candidly than they do in the boardroom, which often contains the CEO's subordinates. Then, attributing nothing to particular individuals, the senior director reported the discussion to the CEO.

GREEN CARROT. Pay is rarely the prime motivation for board service, but some reformers believe it could be used to create an incentive for more active involvement. John Pound, an economist at Harvard University's Kennedy School of Government, believes director pay—typically \$50,000 annually at large companies—should be boosted substantially. "That would create a strong incentive for these people to actually do things,"



"The motion has been made and seconded that we stick our heads in the sand."

necessary—and perhaps it isn't if the CEO actually does use the board for advice and counsel and views directors as representatives of shareholders. But many don't. "Some CEOs regard boards as a necessary evil," says Charles F. Luce, a board veteran who once headed Consolidated Edison and who is now special counsel to Metropolitan Life Insurance Co. "They consult them to the minimum required by law." It was Luce, as the senior director at Allegis, who delivered the news to CEO Richard Ferris that he was being replaced by the board.

Ferris is a case in point. Says Luce: "When we discharged him, one director commented that Dick thought the board worked for him. We thought Ferris was working for us." Ferris declined to comment on that or any board issue.

Allegis did not split the jobs of CEO and chairman. But it had another mechanism that gave the board a bit of independence—and that Luce believes is applicable elsewhere. Each March, outside directors would meet separately to re-

Pound says. Others think the answer lies not in paying directors more but in paying them with stock. Sara Lee, for example, now pays directors 30% of their \$50,000 annual fee in stock.

No one wants to turn the relationship between CEO and board into an adversarial one. Or to encourage constant second-guessing by outsiders who will never have all the information management has. Or to mandate management by the board. As Sara Lee's Bryan puts it: "Committees aren't good managers—they take the conservative course or listen to the guy who's most persuasive."

Fair enough. But management at many companies does need to be made more accountable. If more boards took charge, management would be under less threat of attack—from raiders, from foreign rivals, from shareholders, and from the public at large.

By Judith H. Dobrzynski in New York, with Michael Schroeder and Gregory L. Miles in Pittsburgh, Joseph Weber in Philadelphia, and bureau reports



A SEAT ON THE BOARD IS GETTING HOTTER

Shareholders are holding directors liable more often—and the courts are backing them up

In May, a trustee for a shareholder sued the board of Occidental Petroleum Corp. for allocating \$86 million to a museum named after CEO Armand Hammer. And owners of Yuba Natural Resources Inc. sued directors for allegedly allowing the mining company to be used to launder drug money. Shareholders recently sued Microsoft Corp.'s board because the company failed to meet first-quarter earnings estimates, causing its stock to drop eight points in a day. And they targeted directors of Time, Warner, Exxon, Avon, Blockbuster Entertainment, Litton, and Lockheed.

Most are fighting the cases vigorously. But the moral is clear: If you're a director, these days you had better have a good lawyer and plenty of insurance. Shareholder litigation "is exploding," says Frank Reynolds, editor of *Corporate Officers and Directors Liability Litigation Reporter*, a newsletter that tracks such suits. The result is a changed climate in the boardroom. "We're being asked to earn our salt more frequently," says Ralph Z. Soren-

son, a director of Polaroid Corp.

The pressure to perform has been building since at least 1985, when the Delaware Supreme Court stunned the corporate world by finding that Trans Union Corp.'s directors had been too quick to accept a takeover bid. It held them personally liable for the difference between the offer they accepted and the price the company might have fetched in a sale. The directors then agreed to pay \$13.5 million of the \$23.5 million settlement—the excess over their insurance.

COTTAGE INDUSTRY. Before Trans Union, directors seemed invulnerable to liability—generally protected by the so-called business judgment rule, which they used to justify virtually any board decision. Since then, though, court rulings are increasingly rejecting decisions that seem unfair to shareholders, especially during takeover wars. And they're spelling out fiduciary obligations and setting guidelines for decision-making that may make it even easier to fault directors in court.

The favorable rulings have also spurred the growth of a cottage in-

dustry of shareholder lawyers, who turn trigger more litigation. For contingency fees of typically 25% to 50%, these "strike" lawyers grind out class actions on shareholders' behalf or derivative suits to recover damages for the corporation. Often, they reach the courthouse within hours of a corporate development—encouraging an outdate view that they are ambulance-chasers.



SHAREHOLDERS

HOLLY FARMS A class action in Delaware against Holly, its directors, and ConAgra Inc., which won a judgment for Holly after Tysons Food put the chicken company in play, charges that Holly's board engaged in a coordinated effort with ConAgra, improperly auctioned the concern.

NORTHROP A shareholders' suit against Northrop, its board, former Chairman Thomas Jones, and certain "consultants" is pending in federal court in Los Angeles. The suit charges a wide-ranging course of illegal conduct, including payments to South Korean government officials.

Now, even their opponents say otherwise. For their part, shareholder lawyers list themselves as guardians of a company's rightful owners. "You can't trust management to speak for the shareholders," says Melvin I. Weiss of Milberg Weiss Bershad Spechthrie & Lerach. Management is worried about keeping its accoutrements of power." Weiss says his 24-year-old firm has won suits for shareholders "well over" \$2 billion.

The nature of shareholder litigation is changing, too. For years, most cases named directors for failing to make disclosures in stock offerings or in financial statements that, when revealed, caused a drastic stock drop. Recently, in reaction to government fraud investigations, suits against defense contractors have become hot. Besides nondisclosure, these suits often allege far-reaching federal racketeering violations that could hold directors personally liable for three times the amount of actual damages won. And directors face more suits over their policy decisions or performance. After the Exxon Valdez oil spill, shareholders sued Exxon's directors, alleging mismanagement, and are seeking to hold them liable for the oil giant's losses.

A BOOM. Other areas of potential liability are just as troubling for directors. Harvey J. Goldschmid, a corporate law expert at Columbia University Law School, says court rulings suggest that directors may be held liable when a company deliberately ignores environmental hazards. They also risk potential liability "controlling persons" under a 1988 law for failing to take adequate steps to deter insider trading by employees.

The really big boom, however, is in mergers and acquisitions arena, where virtually every battle results in a court fight. Managers and raiders use the courts to delay a bid long enough to find a white knight or win public support. Shareholders and raiders sue to force managers to take a bid more seriously. The takeover suits are so common, in fact, that companies build into their deals the \$10 million to \$20 million it takes to defend them, according to



Ralph Whitworth, director of the 58,000-member United Shareholders Assn.

Most companies make fast out-of-court settlements so the deals can close. But when control battles do go to court, shareholders are winning more often. In Delaware, where more than half the companies on the New York Stock Exchange are incorporated, courts are increasingly holding directors responsible for overseeing management's fair dealing and ensuring the maximization of shareholder value. Consequently, once a company is for sale, the Delaware courts obligate the board to consider competing offers and get the best price. The Delaware Supreme Court spelled out this duty in 1986 when scrutinizing Ronald O. Perelman's hostile bid for Revlon Inc.

On May 3, the same court went a step further. Warning that directors drawn into bidding wars could be liable for failing to ensure that the auction process is

evenhanded, it invalidated a "lockup" agreement Macmillan Inc. made last year with friendly Kohlberg Kravis Roberts & Co. to fend off unwanted suitor Robert Maxwell. The court also blasted the auction as "impermissibly skewed" in KKR's favor after finding that the leveraged buyout firm had gotten a secret tip of Maxwell's bid from Macmillan's chairman and president and its investment bankers. An earlier ruling let Maxwell take control of the publishing giant.

BIG CHILL. "The general thrust of Macmillan is that if you treat bidders unequally, you had better have a good reason," says R. Bruce McNew, a Wilmington lawyer with Greenfield & Chmicles. McNew recently filed a shareholders' suit against Time's directors to stop its proposed merger with Warner Communications Inc.

Directors who are sued for garden-variety securities violations are having an easier time in court. But most of these cases don't get that far because companies settle. An informal survey by Melvin R. Goldman, a San Francisco lawyer, revealed only three shareholder cases that recently went to trial. Even then, two settled before the verdict.

A case against Polaroid is on appeal in Boston after a shareholder trial victory. But in a suit against Datapoint Corp., the company and directors settled before trial, and the accountants settled after a \$21 million jury verdict instead of appealing. In the third case against Nucorp Energy Inc., a California jury threw out the \$200 million-plus class action. But that didn't help Nucorp's directors, who, along with the officers, made a \$41.5 million settlement on the eve of trial, leaving the underwriters and accountants to go to court.

Besides hitting corporate treasuries, the suits hurt in other ways. For emerging companies, often without liability insurance, the suits chill their willingness to take risks, such as going public, says Goldman. And the escalating risks and time demands of directorship are making it harder to recruit. Troubled Southmark Corp. wanted so to hold on to two directors that it paid them a onetime, \$300,000 bonus for services rendered. To entice new directors, it offers a \$50,000 "sign-on" bonus and \$50,000 a year in pay, about \$20,000 more than the national mean or higher-paid directors, according to Heidrick & Struggles Inc.

Such lawsuits are putting more pressure on directors to perform. Their lawyers claim too much. Perhaps. But for now, the reward of having directors who pay attention seems more worthwhile than restricting their liability. The suits are making directors responsible in ways shareholders have the right to expect.

By Michele Galen in New York, with bureau reports

ER SUITS HIT DIRECTORS

the F-20 Tigershark fighter aircraft. Sep-
grand jury is investigating

SAVINGS & LOAN A class action pending in court in Los Angeles against chairman J. Keating and the other officers and directors of American Continental Corp., Linrent company, charges securities fraud steering violations arising from the sale of approximately \$250 million of debentures to 23,000 people. The shareholders allege the bonds are virtually worthless, and their shares to plummet

LOTUS DEVELOPMENT Three suits, pending in Boston, charge Lotus directors with delaying disclosure that the 1-2-3 program would be ready later than announced. A related action, pending in Delaware, criticizes four Lotus outside directors for failing to prevent executives from trading with the inside information

RJR NABISCO A class action pending in Delaware accuses the board of breaching fiduciary duties in the conduct of the auction for the company. Shareholders claim they received less than maximum value for their stock

REAL ESTATE PARTNERSHIPS ARE SINKING, WITH NO LIFEBOATS IN SIGHT

Millions of investors bought into RELPs that have gone bankrupt or belly-up



Bette Geossling found a good deal: Something called a limited partnership wanted her money to invest in shopping centers and warehouses in the booming Southwest. The 61-year-old widow from Pinellas Park, Fla., pulled most of her life savings out of blue-chip stocks and certificates of deposit in 1985 and invested \$180,000 in several of Guaranty Financial Corp.'s real-estate limited partnerships (RELPs).

Bad move. The Southwestern boom went bust, and her debt-burdened enterprises filed for court protection from creditors. But that does Geossling no good. She has sued Tampa-based Guaranty and the broker who sold her the deal, saying it was too risky. Guaranty's principals couldn't be reached for comment. For now, at least, it's goodbye \$180,000.

GUT PUNCHES. It may be cold comfort for her, but Geossling has a lot of company—and she's going to get much more. And increasingly, some of the companies that promoted the partnerships are sharing the pain. Over the past decade, millions of people have poured some \$100 billion into limited partnerships, with \$44 billion of it invested in real estate. Total losses are \$24 billion,

and \$10 billion of that is in RELPs, estimates Jerry Clevenger, president of Investors Advantage Corp., a Palm Harbor (Fla.) RELP dealer. Some RELPs have lost 25% to 50% of their money.

Typically, a limited partnership is promoted and run by general partners, also known as sponsors. The limited partners, like Geossling, are just investors, with no say in operations. In their halcyon days early in the decade, the partnerships were prized primarily as tax shelters, but they were also expected to return the principal plus a profit when properties were sold in 5 to 10 years. However, one study of 650 partnerships shows that less than 21% of them would even be able to return investors' capital if they were liquidated at today's values. That would be a loss of \$6.5 billion, according to Steven Bleier, president of

Diligence Inc., a White Plains (N.Y.) firm that monitors partnerships. Many of these are "an accident waiting to happen," charges Barry Cliff, a financial planner with Financial Network Investment Corp. in Torrance, Calif.

The real-estate rout in the Southwest gets a large chunk of the blame. For closures on unrented Dallas garden apartments and empty Denver office buildings are gut punches to partnerships. Slightly more fortunate are ventures with properties whose net worth and cash flow may be negative—but which are at least still in operation.

Turbulence in the energy industry, which smashed Southwestern property values, also knocked down partnerships in oil and gas fields. Other efforts, such as windmill farms to produce electricity, never even found a market. Most sponsors made matters worse by charging investors such hefty fees that the enterprises had to make a 25% profit just to break even. But the biggest negative was the 1986 tax reform, which ended the limited partnerships' role as four-star tax shelters. The industry suddenly lost its best sales pitch, and sales of RELPs have plunged from a record \$8

The industry lost its best sales pitch in 1986, when tax reform killed its status as a four-star shelter

HOW BANC ONE MOVED TO THE FRONT OF THE LINE

Its emphasis on retail has made it No. 1. So why buy MCorp?

When John B. McCoy, chairman of Banc One Corp., needed a marketing gimmick a few years back, his thoughts turned to an upscale supermarket. Now, he's testing trendy branches where neon signs advertise services from lending to vacation planning. The Columbus (Ohio) regional bank even has a "weekly special," such as an 18-month certificate of deposit paying 9.15% against the area's prevailing 9%.

The retail emphasis is hardly misplaced. With assets of \$25.3 billion, the bank is only the 25th largest. But when measured by return on assets (chart), Banc One has ranked among the five most profitable U.S. banks since 1984, according to IBCA Banking Analysis Ltd. And for the past four quarters, it has been No. 1; net earnings in 1988 were \$340.2 million, a 47% gain over 1987, when Banc One wrote off much of its Latin American debt.

With Third World loans only a bad memory now, McCoy sees no reason to alter a strategy based on small-business loans, home mortgages, car loans, and credit cards. "We follow our nose and keep doing what we do best," says McCoy, 46, whose father and grandfather also headed the bank. The market obviously agrees: The stock, at around 27, sells at 10.2 times earnings, against a price-earnings ratio of 4.9 for the big money-center banks.

GROWING ROSES. McCoy keeps adding to the menu of retail services to capture a wider audience. When Banc One acquired First National Bank in Richmond, Ind., it adopted the bank's senior citizen program that runs seminars on subjects such as growing roses and understanding trust services—besides arranging vacations and, yes, loans.

The centerpiece of the bank's retail activities remains its credit-card business. Legions of Americans first became acquainted with Banc One when Merrill Lynch & Co. hired it in 1977 to handle its

then pioneering Cash Management Accounts. At the time, analysts fretted that the bank was becoming overly dependent on the Wall Street giant. But the link established Banc One's reputation in credit-card processing.

When Merrill took the tasks in-house in 1984, Banc One found customers waiting in the wings. The American Associa-



tion of Retired Persons, Northwest Airlines, and Comp-U-Card are now among its biggest clients. In addition, AARP tapped Banc One two years ago to help create a nationwide credit union, and McCoy hopes other groups will follow suit. Interest aside, the servicing of 8 million credit-card accounts brought in \$171.2 million last year.

Still, risks abound even in the retail end of the market. Traditionally, credit-card loans are more prone to default than other types of consumer debt. And there is no telling what would happen to Banc One's

balance sheet if the economy took a turn for the worse. Credit cards, although they represent only about 10% of loans outstanding, accounted for 13.8% of interest income in 1988. With this in mind, Banc One reduced its exposure by selling off almost \$1 billion in credit-card receivables last year. The pruning process continues at a slower pace.

SECRET BIDS. But reining in its credit-card business may not be enough to keep the bank's enviable earnings record on track. A slowdown in consumer spending would crimp borrowing, while a recession would swell defaults. Even with 565 branches spread out across Ohio, Indiana, Michigan, Kentucky, and Wisconsin, Banc One could face an uphill battle to win more customers.

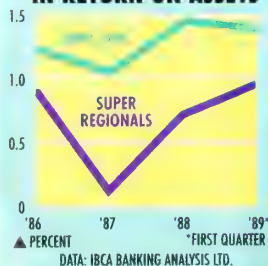
This probably best explains Banc One's bid to acquire the assets of Dallas-based MCorp, a troubled \$3 billion bank holding company. Most of MCorp's assets are now in the hands of the Federal Deposit Insurance Corp. Takeovers are nothing new to Banc One. It has picked up 11 banks over the past 20 years and even has a five-person staff devoted to finding like candidates. Nevertheless, this would be the first time Banc One strayed from its practice of going after small and medium-size banks with solid balance sheets.

So far, five other banks have submitted secret bids for MCorp's assets, and some analysts question Banc One's resolve to win the contest. Lending it might not be all bad. Taking on those insolvent banks formerly owned by MCorp could, at least for a while, knock Banc One off its profitability perch.

But McCoy believes the deal has merit. For starters, federal regulators have agreed to assume bad commercial real estate and energy loans, effectively wiping MCorp's slate clean. When that done, Banc One could transform what's left into the biggest retail network in a state where there is no established consumer-banking leader. It's an uncharacteristic gamble for a bank that has built a prosperity by following a steady, predictable path. But it's a move that, in the long run, just could end up keeping Banc One No. 1.

By Stephen Phillips
Cleveland

BANC ONE TOPS ITS PEERS IN RETURN ON ASSETS



BONDHOLDERS BRACE FOR THE GREAT ROUNDUP

As rates fall, cities and companies are calling in old debt

Most investors buy bonds to lock in year after year of interest income. That's what they get when they buy long-term Treasuries. But in recent weeks, many corporate and municipal bondholders, who've been congratulating themselves lately for buying bonds when rates were high, are shocked to learn that their money would soon be cut down.

The culprit is the dramatic decline in interest rates. It's cheaper for municipal and corporate issuers to pay off old debt and raise new money at today's lower rates. "Many people bought 20- to 30-year bonds that are turning into two- to three-year bonds," says Michael R. Feigeles, group vice-president of muni bond marketing for Merrill Lynch & Co.

THE PRINT. Take MAC bonds. An investor who bought Municipal Assistance Corp. of New York bonds issued in '89 is getting a hefty tax-free. While the bonds had 30-year maturities, the fine print says that MAC can call them on July 1 of this year. Sure enough, in one of the largest redemptions in muni history, MAC will retire more than \$1.1 billion of outstanding debt. That's fine for MAC, which will save \$70 million, but bad for investors.

MAC is just the start. For the next four years, municipal bond issues by the hundreds are likely to be called. Municipals issued for 20 to 35 years, but most will be called after just 10 years. The \$3 billion in munis issued in 1979 and the early 1980s at double-digit interest rates are just starting to reach their 10th anniversary. And if rates keep sliding, investors are in for an even bigger round-up as more bonds are called.

Corporate bonds, especially utilities, are also vulnerable to being called, but here the investor has even less protection. While most industrial, bank, and finance company bonds have five years of call protection, most utility bonds do not. If rates stay the same, some \$5 billion of electric utility bonds alone could be called. But if they fall an additional three-quarters of a percentage

point, they go out and issue new bonds. With lower interest rates providing an incentive, "these companies get very creative," says Reich.

The biggest hazard is buying munis or corporates that are subject to calls within the next few years. For example, an investor pays \$1,200 for a muni with a face value of \$1,000. He thinks he's getting 9% for 15 years. But in three years the bond is called at face value, and the investor ends up with an annual yield of only 2.1%.

GAME PLANS. What should investors do if their bonds are called? Shearson Lehman Hutton Inc., in a recently launched ad campaign, is telling MAC bondholders that "it is virtually impossible to replace the income you were receiving on your older MAC bonds." While the going is good, swap into new 7% tax-free munis, they advise.

If an investor has bonds that will almost certainly be called in a few years, the choice is tougher: Either collect a few more years of interest at yesterday's high rates or lock in today's rates because they may go down. For example, an investor who owns a \$100,000, 10% bond callable in 1992 can collect \$10,000 for three years. Then in 1992, he can reinvest the \$100,000 he'll get for the bonds. But the rate by then may be 6%, and he'll only get \$6,000 a year. Merrill is forecasting that interest rates are likely to fall and recommending that clients whose bonds will be called in the next few years cash in now. Since bonds that are callable are decreasing in value every year, by selling now "you can buy more bonds today," says Feigeles.

The rub, of course, is that interest rates, instead of falling, may rise. Investors that

swap into 7% bonds today would find them worth less, not to mention the loss of a few years of interest income from holding on to their 10% bonds. In the final analysis, buying bonds now is betting that interest rates will fall. Ironically, if the investor turns out to be right on falling rates, the chances are good that down the road his winning bonds will be called.

By Leah J. Nathans in New York

BONDS ON THE CALL LIST

Municipal	Amount Millions	Call date
MUNICIPAL ASSIST. CORP. OF N.Y.C. 7½% TO 13¾% DUE 1989 TO 2008	\$1,165	7/1/89
N.Y. STATE POWER AUTHORITY 9% TO 12½% DUE 1993 TO 2010	250	2/1/92
SAN ANTONIO ELEC. & GAS 9¼% DUE 2004	75	2/1/90
Corporate		
PACIFIC GAS & ELECTRIC 14% DUE 1994	250	6/1/89
ARKANSAS POWER & LIGHT 13¼% DUE 2020	25	7/11/89
COMMONWEALTH EDISON 14¾% DUE 1994	11	7/31/89

OTHERS THAT MAY FOLLOW

Municipal	Amount Millions	Call date
JACKSONVILLE ELECTRIC AUTHORITY 9½% DUE 2007	175	10/1/93
N.Y. STATE MEDICARE/ST. LUKE'S 10% TO 10¼% DUE 2002 TO 2022	57	1/15/93
Corporate		
SOUTHWESTERN BELL 11½% DUE IN 2023	300	NOW
EL PASO NATURAL GAS 12¾% DUE 2002	125	12/1/89
HONEYWELL 11½% DUE 1992	100	11/1/89
CONSUMERS POWER 16¾% DUE 1994	100	10/1/89
GEORGIA POWER 13½% DUE 2012	35	1/2/90

DATA: SHEARSON LEHMAN HUTTON INC., MERRILL LYNCH & CO.,
SALOMON BROTHERS INC.

point, to 7.5%, \$29 billion more in electric utility issues would be retired, says Eunice T. Reich, a utility-bond analyst for Merrill Lynch.

Many a broker has sold utility bonds by pitching the refunding protection that the bonds offer. The utility has agreed not to issue debt at a lower cost to retire that bond. Utilities, however, can get around this restriction by using cash on hand to retire the debt. Then, at a later



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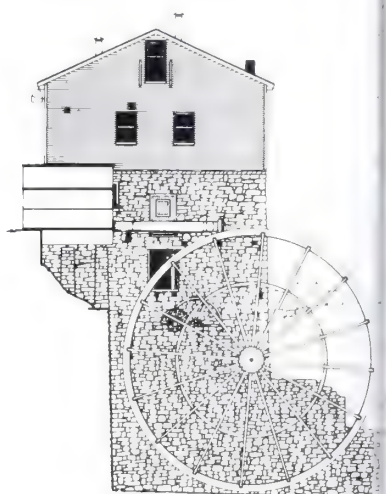
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BY JEFFREY M. LADERMAN

SANS FRED, THE FUR VAULT MAY BE READY TO FLY

If it's shrewd to buy straw hats in December, it must be smart to buy fur coats in July. On the surface, that may be the only attraction of the Fur Vault, the specialty retailer best known through Chairman and pitchman Fred "the Furrier" Schwartz.

Now at 2%, Fur Vault shares haven't been north of 3 since early November. Some big institutional holders, such as Chase Manhattan Investors and First Chicago Investment Advisors, have sold off large positions, having given up hope that the stock, which sold as high as 15 in 1986, will rebound anytime soon. The company plunged into the red last year, suffering from overexpansion, poor management, and a downturn in sales caused by a warm winter. "You can't find a more beat-up stock than this," says Edward Antonian, portfolio manager of the Delaware Group Trend Fund, one of 1989's best-performing mutual funds.

But Antonian has started accumulating the stock. He and a few other pros say President Robert Miller, who replaced Schwartz as CEO last year, is sharpening operations. Linda Baker, an analyst at Prudential-Bache Securities, notes that the company tripled its earnings, to 21¢ a share for the quarter ending Feb. 28—the fur industry's biggest quarter. "Sales were lower, but they made money because margins and cost controls are much better," says Baker. She thinks the Fur Vault will earn 25¢ a share in the fiscal year that began June 1, vs. a loss of about 15¢ a share for fiscal 1989.

HIGH-END SPREAD. To lessen dependence on furs, Miller is introducing handbags, scarves, and non-fur outerwear into its stores. The company's fast-growing Andrew Marc division, which makes leather outerwear, now accounts for about a third of sales. "Andrew Marc alone could be worth what the company is selling for," says money manager Terry Marbach of Kirr, Marbach & Co.

Of course, even bulls admit that the company will have to cope with a vocal animal-rights lobby that is trying to make furs socially taboo. Miller says that the fur industry has hired the Burson-Marsteller PR firm to present its view. Says Miller: "We see wearing



FRED "THE FURRIER" SCHWARTZ: THE OUSTED CEO MAY DISAPPEAR FROM THE ADS, TOO

a fur as a freedom-of-choice issue."

Some suspect that Miller's overhaul of the Fur Vault will include a new image for the company sans Fred the Furrier. Miller declined comment on that possibility. Schwartz, shut out of management, has been unloading shares for some time, including 350,000 in March that brought his ownership down to 18.2%. Investors say he sold an additional 200,000 shares just days ago, and brokers are trying to line up buyers for 800,000 more.

But while Schwartz has been selling, Miller has been buying—and now owns about 2% of the company. "If Miller knows what he's doing," says Antonian, "the stock is an easy double."

HAS ALCOA BECOME RECESSION-PROOF?

As the economy slows, investors are shunning cyclical stocks like the plague. That could be a mistake, at least in the case of Aluminum Co. of America. At 66, Alcoa is up \$10 in 1989, but \$8 of that came in January. R. Wayne Atwell, a metals analyst for Goldman, Sachs & Co., says the shares are "dramatically undervalued."

Atwell notes that Alcoa's prospects are better than many think. For one thing, 30% of its sales go either to the recession-proof beverage industry or to the aerospace industry, where backlogs are long and margins are fat. Plus, aluminum makers spent much of the 1980s shuttering underproductive facilities, so capacity is tight, and there

is no major expansion expected before 1991. As for debt, while others have binged, Alcoa has been slashing away at it: The company's debt-to-capital ratio is 26% and falling. That should provide staying power in a slowdown.

All told, Atwell sees earnings of \$13 a share this year and \$14 in 1990. That gives the stock a bargain-basement p/e of 5, vs. 12.5 for the overall market. It also sports a snappy 5.6% yield, which should increase along with earnings.

Alcoa is also amassing cash, which Atwell thinks will support buybacks of 5 million to 10 million shares this year and next. Even without buybacks, he estimates that Alcoa could climb to 95 in 1990. Add the dividend, and, if Atwell is right, you get a 50% total return. With fewer shares outstanding, the price could jump to 115, which, coupled with a higher dividend, provides a juicy 80% total return.

A POULTRY BARGAIN MAY BE HATCHING

Some savvy investors are whetting their appetites for Seaboard, the parent of Seaboard Farms, one of the top 10 U.S. poultry processors. It isn't known to be on the block, but some pros say it's only a matter of time. Three-quarters of Seaboard's 1.5 million shares are controlled by the Bresky family. President H. Harry Bresky is 63, and his brother, Otto, is 65 and has already retired. Those who know the company say there are no other family members in line for succession. Bresky didn't return calls.

"It operates like a privately held company. These people have never taken a phone call from us," says Michael Price, whose Mutual Shares fund has owned the stock for 15 years, accumulating its initial stake for as little as \$6 a share. The shares now sell for \$149—and Price's funds hold a 5.9% stake. Price estimates that the company is worth a minimum of \$225 a share in a buyout. Two-thirds of Seaboard's \$450 million in sales comes from poultry, the rest from commercial baking and the transporting of grain.

Seaboard looks cheap compared with other poultry companies. On June 19, Tyson Foods, the poultry-processing giant that has been battling to buy rival Holly Farms, boosted its offer to \$70 a share, or 14 times earnings. Seaboard's p/e is 8. Philip Hershberg of Advisory Investment Service figures that if Tyson's bid sets the standard, Seaboard should fetch \$280 a share in a buyout.

WITH DEALS THIS GOOD, WHY SETTLE FOR NEW?

late-model trade-ins are bargains compared with new cars

Luis O. Villarrubia of Chicago spent weeks looking for a new car this spring. Says the 31-year-old auto-insurance valuator, who will be married next year, "I wanted something that would look good when I drove away from the church." The \$14,100 price tag was too steep on his first choice, an Oldsmobile Cutlass Supreme, and he was about to settle on the smaller \$12,000 Pontiac Grand Am. Then he noticed used-car prices. For less than \$11,500, he bought a used, fully equipped 1989 Pontiac Grand Prix—sister to the Supreme—with only 5,000 miles on it and almost a full warranty. "If you want to save \$3,000 or \$4,000, I don't see not making that choice," he says.

People such as Villarrubia may be sending a warning to the auto industry. The price spread between used and new cars—already huge in many cases—is widening as new-car prices rise and a glut of old models holds down prices for used cars. This is making it hard for some customers to get enough of a trade-in to buy a new car. And it's prompting others to buy used, just to save money. Says Jeff Shackelford, manager of used-car sales at Ricart Ford Inc. in Columbus, Ohio: "We're in competition with new cars these days."

The competition, ironically, has been caused in part by the 83.7 million new cars and light trucks manufacturers have sold in the past five years. Trade-ins for these purchases have swelled supplies of used cars—young ones. In 1988, cars less than two years old accounted for 16% of used vehicles sold by members of the National Automobile Dealers Assn. In 1984, the figure was 16.6%.

DOUBLE HIT. Sooner or later, this has the potential to affect [new-car] prices," says Donald S. Cook Jr., Ford Motor Credit's executive vice-president for North American automotive finance operations. And that effect won't be easy to reverse. A \$750 rebate on a new Plymouth

THE WIDENING PRICE GAP

The Ford Tempo and Plymouth Reliant are two of the biggest-selling cars in the U.S. They are also popular among fleet buyers, who tend to use them for only a year before moving them onto the used-car market. The prices cited below are from the Chicago area.



FORD TEMPO

JUNE 1, 1989	JUNE 1, 1988
PRICE NEW \$10,200	PRICE NEW \$9,675
TWO-YEAR-OLD \$6,000	TWO-YEAR-OLD \$5,650
GAP \$4,200	GAP \$4,025



PLYMOUTH RELIANT

JUNE 1, 1989	JUNE 1, 1988
PRICE NEW \$9,950	PRICE NEW \$9,575
TWO-YEAR-OLD \$5,750	TWO-YEAR-OLD \$5,500
GAP \$4,200	GAP \$4,075

DATA: CCC INFORMATION SERVICES INC.

Sundance, for example, knocks about that much off a two-year-old Sundance. In a saturated market such as the current one, the industry loses twice. Rebates don't work well: Despite them, new-car sales are down 6.3% this year. And, according to numbers from CCC Information Services Inc. in Chicago, which values used cars for the insurance industry, the price gap widens between new and used cars, making the latter even tougher competition (table).

If prices stay low long enough, the used-car glut should ease. But so far, analysts say, supply continues to outrun demand. One reason is a tightening of bank credit guidelines that affects less-affluent used-car buyers the most. More to blame, however, is a change in the pattern of car sales. According to the Commerce Dept.'s Bureau of Economic Analysis, corporate and rental fleet purchases plus leases accounted for 36% of U.S. new-car sales in 1988, up from 25% in 1973. Fleet favorites such as the Ford Tempo, Plymouth Reliant, and Chevrolet Celebrity have sold well. But fleet sales have in essence made Detroit a "manufacturer of used cars," says Richard D. Recchia, executive vice-president of Mitsubishi Motor Sales of America Inc.

Fleet buyers, who get good discounts on new models, usually trade in within a year or less. And that adds to the used-car glut. Indeed, the average wholesale price for used cars sold to dealers at auction, a major outlet for fleet vehicles, has fallen from year-earlier levels in 8 of the past 13 months, according to the NADA Used Car Guide. Subaru of America Inc., for one, says its cars coming off lease this spring drew \$300 to \$500 less than anticipated at auction. "If the industry continues to flood the market with fleet units, it's going to shoot itself in the foot," warns Jack V. Kirnan, an auto analyst at Kidder, Peabody & Co.

The ripples from that could spread to almost everyone connected with the auto industry. On June 12, for example, Agency-Rent-A-Car Inc. blamed weak prices for used cars it sold, plus higher interest rates, for a 47% slide in its first-quarter earnings.

CONTROLLED SKID. Carmakers are trying to raise the price of used vehicles. Mercedes-Benz of North America Inc., for example, now offers one-year warranties on models with less than 100,000 miles and aggressively advertises them. BMW of North America Inc. is reconditioning fleet and lease cars at the same centers where it preps new cars—a selling point that it hopes will boost demand for used models. And Ford is trying to soften the blow when, say, it takes back 1,000 leased Escorts and sends them to auction. Says Cook: "We don't try to run every vehicle through the first time," but gradually instead.

Such tactics may not be enough, however. In 1990, analysts say, the average price of new cars may rise 3% to 4% in part because of federally mandated air bags and higher raw-materials prices. And guess who will benefit most? "Good," says used-car salesman Shackelford. "I'd like to see that happen."

By James B. Treece in Detroit

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Exporting Opportunities for Small and Medium-Sized Firms

Each year across the United States, trade specialists from the U.S. Department of Commerce conduct more than 125,000 individual counseling sessions with companies considering exporting their products to other countries.

The result:

Thousands of companies of all sizes make their first sales overseas, while numerous others locate new markets to explore.

"There is no better time to export products around the globe. The potential is limitless"

U.S. goods and services have consistently had appeal abroad. With the global decline of the dollar in recent years, world demand for U.S. products has burgeoned, creating an ideal climate for exports. This message is underscored by the trade specialists who work to convince companies that if they have a product or service that has been successful in the domestic marketplace, they can, and *should*, take it into the international arena.

Since 1982, When the Department's U.S. and Foreign





Commercial Service (US&FCS) was established to help American firms increase their international sales, a number of programs have been created to meet the varied needs of exporters. Most are offered free or at minimal cost to help small and medium-sized companies identify new export markets, analyze the export potential of their products, make the necessary contacts and promote—and ultimately sell—their goods and services abroad.

Today, the US&FCS employs more than 1,300 trade professionals and support staff in 68 domestic offices and 122 foreign locations. They work as a global field organization and delivery system, providing U.S. companies with access to more than 95 percent of the world marketplace for U.S. exports.

"There is no better time to export products around the globe," says Brooks Shumway, Managing Director of Commerce's Export Promotion Services. "The potential for success is limitless."

WHY EXPORT?

Exporting makes good business sense. Besides increasing profits, exporting enables many companies to expand or improve their product lines, enhancing their position in the domestic marketplace. Exporters often find large markets in developing countries for remanufactured equipment, as well as for technology that is no longer state-of-the-art in this country. Exporting helps many companies compensate for seasonal fluctuations in domestic sales. An estimated 23,000 jobs are created for every \$1 billion in U.S. exports.

American goods and services of every type are now strong sellers in the global marketplace. With careful planning, say Commerce experts, there is very little that cannot be sold abroad. And with the sophistication of transportation and communications, including the explosive growth in the facsimile machine and courier industries, exporting goods and services overseas is easier than ever.



THE SECRETARY OF COMMERCE
Washington, D.C. 20230

If you don't sell abroad, you may be selling your company short.

More and more U.S. businesses are exporting products and services. The dollar's favorable position continues to open profitable new markets for U.S. firms interested in selling abroad. In fact, I credit American exporters with leading the improvement in the trade deficit, which decreased by \$33 billion in 1988. U.S. exports rose 27 percent and represented some 40 percent of our GNP growth.

Businesses contributing to our Nation's economic security know that quality is the key to competing at home and abroad. As President Bush has said, "We are in the midst of a technological revolution, and our work to build quality products will be a crucial link to the long-term success of the United States in the global marketplace." We are honoring those who help us achieve this goal with the Malcolm Baldrige National Quality Awards, America's highest tribute to excellence.

Early trade figures in 1989 demonstrate that we must redouble our efforts to improve our trade balance in the months ahead. Strong exports have great importance for our continuing economic security. The U.S. Department of Commerce wants to help you sell abroad. Our offices in 68 U.S. cities have a wealth of information and services to assist you, from customized market research to low-cost promotion of your product overseas.

I urge you to give them a call.

Robert A. Mosbacher

75 Years Stimulating America's Progress • 1913-1988

Three years ago, Gene Zenger, of Newport Beach, California, did what many entrepreneurs set out to do: He built a better mousetrap—literally!



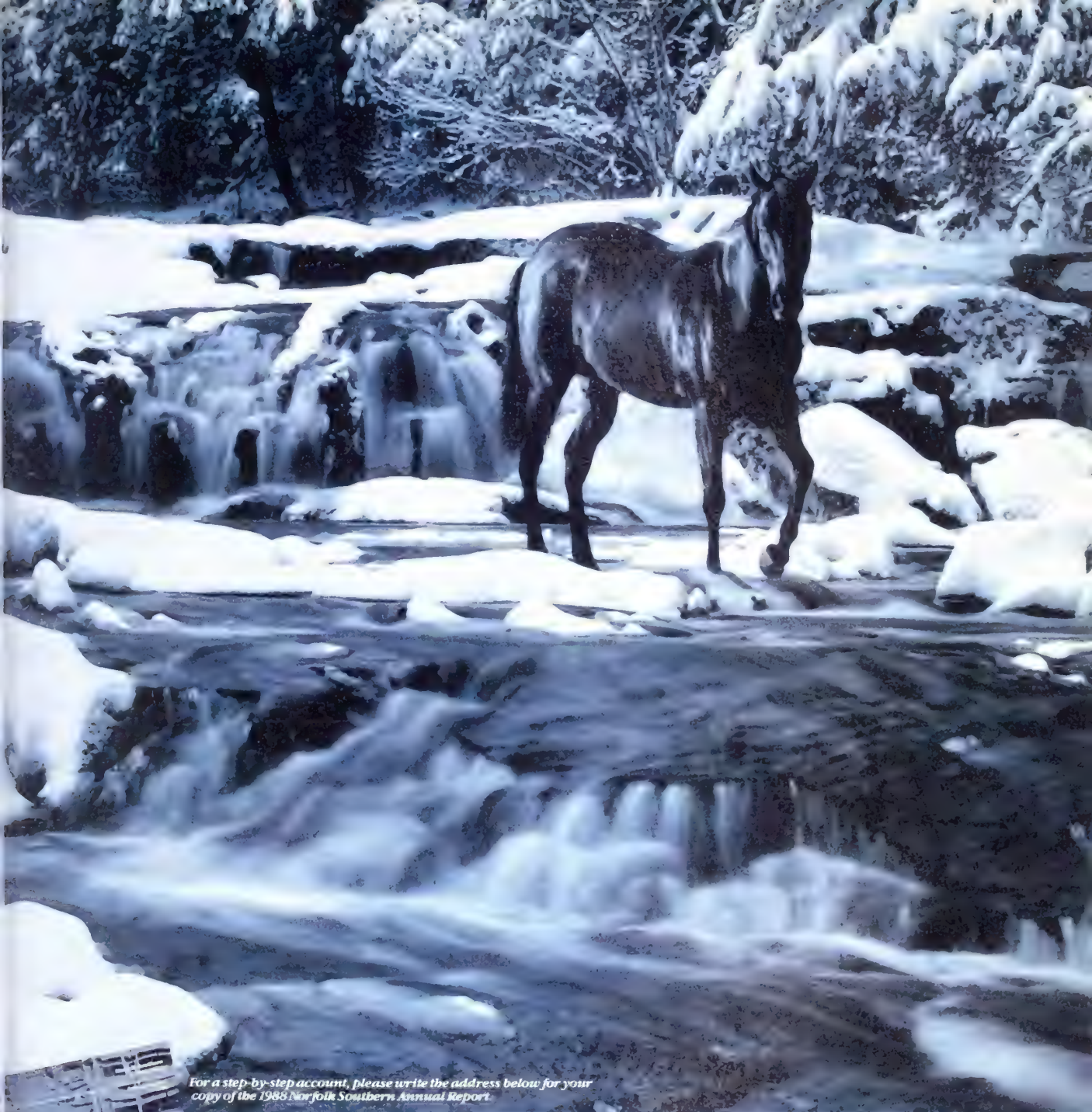
Inventor Gene Zenger of Trap-Ease International

His "Trap Ease" uses no poisons, glue or springs. When Mr. Zenger first considered selling his product overseas, he turned to his US&FCS district office. "Without their help, we would have been flat dead in the water," he said. As of last fall, he had contracts to sell his mousetraps in Pakistan, Kuwait, Israel, Italy and Qatar, with negotiations underway in several other countries.

HOW TO BEGIN

"For small or medium-sized businesses considering exporting, a call to their nearest US&FCS district office can be the most important call they will ever make," declared

JUDY BRY



For a step-by-step account, please write the address below for your copy of the 1988 Norfolk Southern Annual Report.

SURE-FOOTED.

When the winds of change stir the economy, a corporation can maintain its momentum if it measures each step carefully.

For 100 years, in even the most unsettling conditions, The Thoroughbred and its predecessor companies have done more than just keep their balance. In 1988, the nation's most efficient major railroad system adroitly moved on to new, higher ground.

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revenue yields and cost reductions resulted in net income of \$635 million. With revenues of over \$4 billion and assets of over \$10 billion, Norfolk Southern stands on very solid footing. The Thoroughbred's marketing flexibility and aggressive capital improvements program position it firmly for the future.

Clearly, management can negotiate changing terrain and still stay a step ahead.



NS

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Robert Kelly of the US&FCS Export Promotion Services.

Trade specialists at these offices can advise exporters at every stage of the export process, addressing concerns about red tape and paperwork, getting paid, packaging and shipping, speaking foreign languages, even entering foreign markets before reaching great heights in the domestic marketplace.

"Having a local office of the Department of Commerce to help us locate new distributors as well as guide us through the confusing labyrinth of export licensing has been a godsend," said Ann Barbee, International Sales Manager of Network General, a Mountain View, California manufacturer of computer network test equipment. "These people have contributed several hundred thousand dollars to our overseas sales."

US&FCS trade specialists can assist with:

PLANNING. Trade specialists will help companies develop a customized, step-by-step exporting strategy, taking into account objectives, time schedules, product or service export potential and a company's ability to expand production to meet export demand.

A recommended resource for all exporters is the US&FCS's "Basic Guide to Exporting," available through district office exporting seminars and at Government Printing Office bookstores nationwide. The 150-page handbook offers a thorough, easily understandable, step-by-step guide through every stage of the export process.

MARKET RESEARCH. Identification of potential markets is a critical step that must be taken early in the exporting process. Experienced US&FCS research analysts continually collect and analyze business and economic data. They stay on the lookout for good markets for U.S. products, keep a close eye on market trends and projections and are familiar with agents, distributors and large buyers in their markets. US&FCS district office trade specialists can readily tap this network to

answer a wide range of export questions.

LOCATING OVERSEAS CONTACTS.

After careful consideration of markets, the next step is to locate potential agents, distributors, buyers or joint-venture partners overseas. Several US&FCS programs offer valuable assistance in making these necessary contacts.

PRODUCT PREPARATION. Potential exporters are often surprised to learn that most U.S. products can be sold as easily in foreign markets as in the U.S. Modifications, when required, are not necessarily expensive, and may be as

simple as metric labeling or changing package color to better appeal to buyer tastes or cultural norms. Electrical products, of course, must conform to the standards of the country of destination, and, on occasion, a product or service may require modification to satisfy foreign government regulations. When actual re-engineering or other significant changes are required, the potential profits may still make expensive modifications worthwhile.

MAKING THE SALE. Most, but not all, foreign letters of inquiry are in English. Commerce trade specialists

Matchmakers

One of the most highly acclaimed programs of the Department of Commerce is Matchmakers trade delegations. The program introduces small and medium-sized U.S. companies to new markets through short, inexpensive overseas visits with a clear objective: to "match" them with potential agents, distributors and joint venture or licensing partners. The department does all the background work, including evaluating product potential, finding and screening contacts, scheduling meetings for each U.S. firm and handling logistics. On intensive trips of one week or less, company representatives meet face-to-face with prospective clients and attend in-depth briefings on the economic and business climates of the countries visited.

In 1986, Sherri Sorensen, Vice President of Marketing at James Clem Corporation, Chicago makers of specialized clay liners for construction and pollution control use, was put in charge of selling the company's product abroad. She contacted Dick Marsh, a trade specialist in the Chicago district office of the U.S. Department of Commerce, and together they mapped out an international sales strategy. Ms. Sorensen attended a Matchmaker event in Italy and assigned a distributor for that country, who soon generated \$400,000 in business. Following that, Ms. Sorensen attended additional Matchmaker events and

worked with Mr. Marsh to locate other distributors. In 1987, the company's export sales totalled \$750,000, or 80% of the firm's total gross sales. In 1988 the figure rose to \$1.3 million. The company now has a worldwide distribution network and projects 1989 export sales of \$2.5 million to \$3 million.



Matchmakers introduce U.S. sellers to foreign buyers

This summer a Matchmaker trade delegation for companies involved in medical, pollution control and analytical and scientific instrumentation will travel to Seoul and Taipei. Other upcoming Matchmakers include one for the healthcare industry, which will visit Toronto and Montreal in September, a high-tech industrial equipment delegation going to Zurich and Vienna, also in September; and a security equipment delegation scheduled to visit London and Paris in November.

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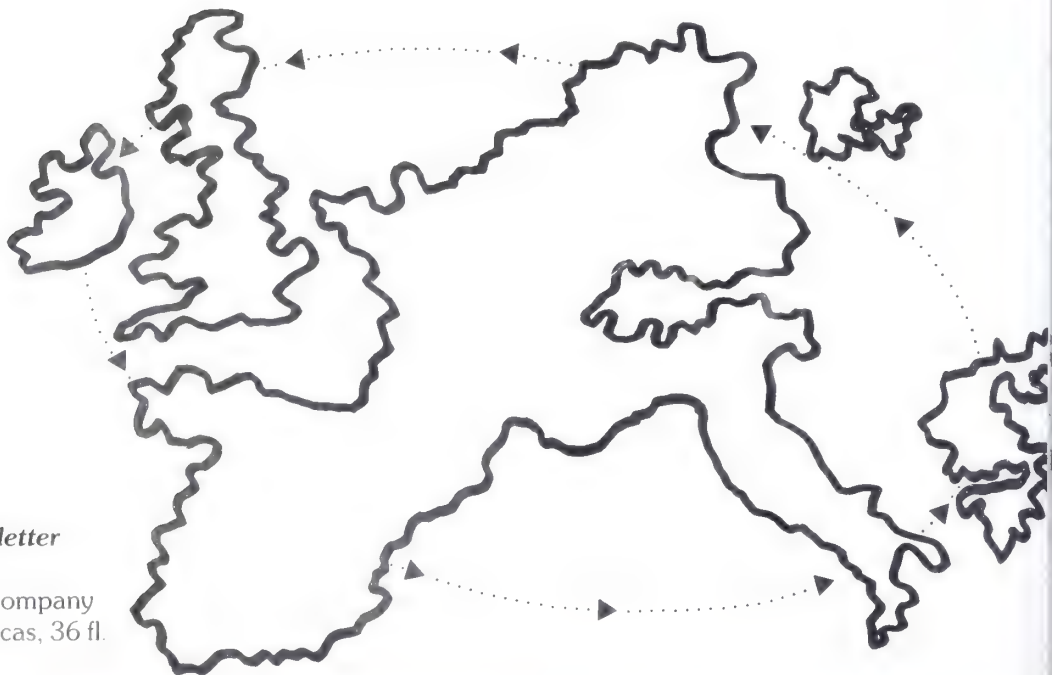
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give this advice to exporters: Always respond promptly, by airmail, to all legitimate inquiries. Don't judge inquiries on the basis of stationery quality or grammatical or typographical errors,

Europe '92

Europe '92 will profoundly change the way U.S. firms do business with many of their oldest and most reliable trading partners. By 1992, when the 12 nation European Community inaugurates the unified European market, trade barriers will be reduced, product standards will be harmonized and practically every aspect of the export process will be simplified.

The U.S. Department of Commerce is urging U.S. firms to position themselves now in the European marketplace, and is sponsoring a series of seminars nationwide about Europe '92. Trade specialists in offices throughout the U.S. are prepared to help companies assess their market potential, identify promising markets, find sales leads, locate agents, distributors, buyers or joint-venture overseas partners, check out the competition, and arrange introductions with representatives and buyers.

Matchmaker trade delegations are scheduled for Europe this year, as are several other trade events. *Commercial News USA* offers the option to specifically target the European market.

"The opportunity to enter a single market with more than 320 million customers is very attractive," said Joseph A. Vasquez, acting director general of the US & FCS.

"And the benefits—cost savings, simplified shipping, reduced paperwork, lower administrative overhead, a single set of product standards and one customs document for all 12 EC countries—make it too good to pass up."

since printing standards differ and your correspondent may be using English as a second language. Base your decisions to trade with potential business partners on a check of their background and business reputation. A variety of sources can assist with this, including good business libraries, international banks, foreign embassies or consulates and the US&FCS World Traders Data Report service.

AFTER THE SALE. Once a sale is completed, attention must be directed to packing, shipping, labeling, insurance and documentation. Some exporters prefer to use freight forwarders, who will handle all the details of moving a product from the U.S. supplier to its foreign destination, including packing, insurance, customs clearance and export documentation. The charges for a freight forwarder's services are a legitimate cost that should be figured into the price charged to the customer.

GETTING PAID. There are five basic methods of payment, ranked from the most to the least secure: cash in advance, letter of credit, documentary drafts for collection, open account and consignment sales. For new exporters or exporters selling to new markets, letters of credit, arranged through international departments of major banks, offer a safe and expedient way of doing business abroad.

PROGRAMS THAT HELP

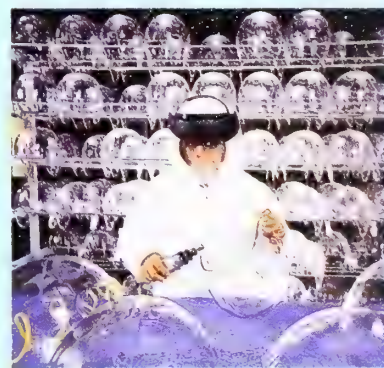
Two US&FCS programs that are particularly popular with exporters are *Commercial News USA* and Matchmakers. Other programs available through Commerce's US&FCS district offices offer valuable assistance with all phases of exporting, from finding and accessing new markets to making contacts and promoting products:

COMPARISON SHOPPING

SERVICE. This custom-tailored service offers companies an on-the-spot, accurate assessment of how their product will sell in a given foreign market. US&FCS staff in the target market interview importers, distributors, retailers, wholesalers, end users and local producers of comparable products, and provide a customized report to the requesting U.S. firm.

Exporting Services

"Find that part of your service that is unique, identify a niche in the international marketplace, then start small and grow from there," advises Rich Quinn, Vice President of All American/MAXPRO, a San Antonio, Texas, manufacturer and reconditioner of athletic equipment. His company entered the export market three



All American/MAXPRO of San Antonio, Texas

years ago, capitalizing on the recent overseas interest in U.S.-style football. They now recondition footballs and football helmets for every country in Europe, New Zealand and Australia.

Trade in services today constitutes 17-18 percent of overall world trade. Long noted for quality, U.S. services account for about 60 percent of the U.S. gross national product. Companies such as DHL Overnight Express help exporters of both goods and services. "Get that package there the fastest way possible with the least amount of hassle," says Thomas Honey, DHL's Director of Marketing. "And that can mean the difference in an increasingly competitive global marketplace."

FOREIGN MARKET RESEARCH.

Data on selected products and industries in countries offering the best opportunities for U.S. goods and services is continually collected by U.S. embassy staff and in-country professionals. Concise, customized reports can be provided for an industry or country, in print or on diskettes. These

Performance Bond.



Market leaders
rely on Cast's solid service
commitment to facilitate their
overseas transactions.



The Blue Box System of Container Shipping



may include information about trade barriers, market sizes, investment climates, best-selling products, government regulations and economic trends.

WORLD TRADERS DATA REPORTS.

A U.S. firm can use this service to check the background of a potential foreign trading partner before signing business agreements. The report on the foreign firm will include its standing in the local business community, creditworthiness and overall reliability and suitability.

AGENT/DISTRIBUTOR SERVICE.

This made-to-order search enables U.S. firms to locate interested and qualified foreign representatives for their products. US&FCS district office trade specialists verify the marketability of a U.S. company's goods and services and have its product information reviewed by commercial specialists in the country targeted for export. In-

country staff then interview potential agents, evaluate their interest and capability and provide a list of up to six of the best qualified and most interested contacts, along with comments and recommendations.

"This program has served as our main source in locating qualified representatives in foreign markets," said Sam D. Haan, International Sales Manager of Vermeer Manufacturing Company, makers of landscaping products in Pella, Iowa.

TRADE OPPORTUNITIES

PROGRAM. This program gives companies a quick and inexpensive way to locate current sales leads from overseas firms seeking to buy or represent specific U.S. products or services. Gathered daily by U.S. commercial offices in 65 foreign countries, these pre-screened leads are available in printed or electronic form from a variety of public and private sources.

CATALOG AND VIDEO-CATALOG EXHIBITIONS. In 1988, the US&FCS displayed the catalogs and product promotion videos of 1,868 U.S. firms

to select foreign audiences in 140 countries, generating as many as 50 sales leads per participating company. This low-cost, low-risk service enables small and mid-size U.S. firms to gain valuable market exposure for their products and services without the expense of overseas travel. Catalogs and videos continue to circulate after the show at other promotional events or in embassy commercial libraries.

FOREIGN BUYER PROGRAM. This service allows U.S. firms to meet qualified foreign purchasers for their products and services at selected trade shows here in the United States. Each year the US&FCS selects 18 top U.S. industry shows and promotes them worldwide to attract foreign buyer delegations. At the shows, the US&FCS manages international business centers where trade specialists counsel U.S. firms and introduce buyers and sellers.

TRADE EXHIBITIONS AND MISSIONS. Government and privately sponsored trade exhibitions offer an opportunity to participate in high-profile trade promotion around the world. Extensive local publicity, exhibit booths and logistical support are provided. Every year the US&FCS officially recognizes 30 to 40 selected overseas trade fairs developed by private show organizers. The Commerce Department is also supporting the first international trade show exclusively for small businesses, EXPORT '89, the American-European Small Business Trade Congress, scheduled for next October in Frankfurt, West Germany.

Commerce trade missions are structured to help exporters find local agents, distributors, representatives or customers in a variety of world markets. Some include technical seminars to promote sales of sophisticated products and technology in selected markets.

Commercial News USA

A catalog-magazine that promotes the products and services of U.S. companies to more than 100,000 overseas agents, distributors and potential buyers, *Commercial News USA* is one of the most successful market-entry services offered by the U.S. Department of Commerce. The high-profile catalog-magazine offers valuable exposure in the international marketplace for a fraction of the cost of commercial advertising.

"There was more response from that one ad than any other single ad in our 10 years of business," stated Elizabeth N. Kuzia, Vice President of Stanley Solar and Stove, Inc., a Manchester, New Hampshire, manufacturer of safety devices to detect propane, butane and carbon monoxide.

Commercial News USA, distributed in 140 countries, is a low-risk way for small and mid-sized firms to identify promising export markets, generate sales leads and locate agents, distributors, licensing partners and buyers.

"Ninety-seven percent of U.S. firms using *Commercial News USA* have fewer than 500 employees, and many have never exported before," said Judy Ebner, manager of the *Commercial News USA* program. "Typically, they recoup their participation cost many times over in export sales."

For a nominal fee, *Commercial News USA* will publish a description and photo of a U.S. firm's product. The publication emphasizes new product promotion, although older products may be promoted in special industry sections. Potential business representatives and customers directly contact those companies with products of interest, using an address code printed in the magazine.

"You can't imagine how helpful this service has been," adds Comtesse Suzanne de Paris, who featured her U.S.-made French-formula skin care products in the October 1988 issue of *Commercial News USA*. "Every day I am getting letters from all over the world and sending out catalogs about my products."

Find out more about how the U.S. Department of Commerce can help you export successfully. Call:

1-800-343-4300
Operator 940

Text by Marcia B. Saft, Connecticut based writer and regular contributor to *The New York Times*.

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AT&T

The right choice.

IT'S ROUGH TO BE A DUFFER AT A PRO-AM

It seemed like such a fun assignment. I would play in a pro-am golf tournament, so named because amateurs like me get to play 18 holes with a touring professional, and then I would write about it. But as I stand near the rain-drenched first tee, waiting to begin playing in the Manufacturers Hanover Westchester Classic Pro-Am, I notice that a sizable collection of butterflies has suddenly hatched in my stomach.

"Just play your own game," I tell myself, echoing the advice of a friend who has competed in many of these events. But I'm a 16-handicapper and I don't particularly like my own game. (Nor, I'm about to find out, does my pro for the day, Ed Fiori. But I'll get to that.)

A group teeing off ahead of mine, led by pro Greg Norman, does little to calm my fears. It includes John Akers, chairman of IBM, and Bob Allen, chairman of AT&T. Akers, who told me earlier that he's a touch anxious about playing in his first pro-am, rears back and duffs his shot about 50 yards off the tee—straight into the deep rough.

Next up is Allen, an excellent golfer, who assured me there's nothing to be nervous about. "Just have fun," he said. But somehow it doesn't look like he's having such a great time: His shot veers sharply to the right after about 30 yards, fans run for cover, and his ball skids into the tennis courts next to the first hole. He takes a penalty, tries another ball—and it happens again!

Miraculously, my own first shot is pretty good—straight and acceptably long. I breathe a sigh of relief, and Fiori says: "Well,



BW'S FINCH: OVER 18 HOLES, A FEW DECENT SHOTS—AND MANY SLICES

lookie here." But once we past the first hole, all breaks loose. As rain comes down in sheets, I keep slicing the ball into the rough, normally sorry putting goes even worse, and Fiori decides to roast me with his sarcasm. A sample:

Ed: I think you should take a lesson from your caddy pro, Pete.

Me: Well, I've taken a few.

Ed: Yeah, right. (Laughs.) Is he certified by the PGA? (Laughter all around.)

If you had asked me at the point whether I was having fun, I might have said no. But as the day wears on, I make a few decent shots, I sink a long putt for par on the 10th hole, and I even manage a smile. By the time I square off the last green, finally clinging in on my goal of warm clothes and cold beer, the day has taken on a new light.

RUBBING ELBOWS. Pro-am must be fun—otherwise there wouldn't be so many. The PGA Tour, the Senior Tour, and the Ladies Professional Golf Assn. put on about 120 events a year. Most are one-day affairs, held the Wednesday before the "real" tournament begins. On top of that, there are numerous independent pro-ams during the week. Most are part of any official tournament, they're organized by country clubs or other local groups.

I imagine that playing in a pro-am is a lot like going to one of those baseball fan camps. You get a space in the pros' locker room, you hang out on the practice field alongside the biggest names in the game, and you can rub elbows with the pros in the clubhouse after your round. You also get to play a tournament-real

...rse, complete with heavy
...gh and superslick greens.
...ne part of the Westches-
...event I found especially
...reshing was the ball-spots-
...s on each hole. These vol-
...eers stand near the fair-
...y to keep an eye on your
...shot. Despite my wicked
...e that day, I lost only one
...—I knocked it into a pond.
...ould note, though, that on
...very same hole, I hit a
...t that was greeted by ap-
...use from the small gallery
...fans. A first for me—and
...te probably a last.

CKERS. When
...pro-am match
...connected to a
...-fledged pro-
...sional tourna-
...nt, the pros
...e no choice
...to play. Some,
...ckly, hate pro-
...day. They
...ld rather get
...feel for the
...rse by them-
...es, not by
...gging around
...unch of hack-
...But most are
...least friendly

...ut it. Says Barbara Pad-
...s, Manny Hanny's director
...special events: "The pros
...erstand the importance of
...porate America to golf."
...independent events, the
...s are attracted by guaran-
...of \$2,000 or so in appear-
...e money.

Who can play in a pro-am?
...entially anybody who is
...ing to part with the entry
...A common price range is
...00 to \$2,000, and for multi-
...events the fee goes as
...as \$7,500. It's not cheap,
...a good portion of the
...ey goes to charity. Last
...s Manny Hanny event
...ed nearly \$2 million for
...hospitals. One stipulation
...at you must have a U.S.
...Assn. handicap, and it
...be no higher than 21. Pro-
...organizers actually call
...entrant's home course to
...fy that his or her handi-
...is correct.

...ut before you rush to sign
...or the next big pro-am, be
...re that corporations have
...rved most of the spots
...in advance. They dole



RAINDROPS KEEP FALLIN': DOWNPOUR AT WESTCHESTER



AS AT&T'S ALLEN AND IBM'S AKERS WALK, FINCH LINES UP A SHOT



TEAMWORK: FIORI (RIGHT) SUPPLIED POINTERS—AND WISECRACKS

them out as favors to custom-
...ers or key employees. It's
...usually much easier to
...squeeze into an independent
...pro-am.

Whichever way you
...go, you'll find the com-
...petition part of a pro-
...am is almost always
...the same: Each team
...consists of four ama-
...teurs and one
...pro. My group
...included John

Simone of Manny Hanny,
...Larré Barrett of CBS, and Jap-
...anese advertising executive
...Shigenari Hironobu. The ama-
...teurs all have handicaps,
...which entitle them to a
..."free" stroke on certain
...holes, and the match is
..."best ball." That is, on
...each hole your team re-
...cords only one score—the
...lowest that
...any of the five
...players made.

At the end of the day, the
...group with the lowest team
...score wins.

WATCH THE BIRDIE. Naturally,
...the pro is going to have the
...low score most of the time.
...But that's where the handi-
...caps come in: On one hole
...Fiori and I both made 3. But
...thanks to my handicap, mine
...counted as a 2—and that's
...what our team recorded.
...(Fiori's comment: "Pete, you
...finally came through for us!")

The best-ball format keeps
...the round moving pretty
...quickly. If someone else in
...the group is putting for a 4 and
...I'm putting for a 6, there's no way
...I can have the
...better score. So
...I'm expected to
...pick my ball up
...and withdraw
...from the hole. If
...you play the way
...I did, you pick up
...the ball a lot. So I
...don't have any
...idea what my
...score would have
...been. But that's
...fine with me.

Suffice it to say that my
...team did not have the lowest
...score. If we had, we amateurs
...would have taken home a
...crystal vase. And for his ef-
...forts, Fiori would have pock-
...eted \$1,000 in cash. (Now I
...know why he didn't like my
...game so much.) But even the
...losers don't go home empty-
...handed. Corporate sponsors,
...eager to get as much visibility
...as they can, shower partici-
...pants with all types of free-
...bies: tote bags, golf umbrel-
...las, sweaters, cigars, and,
...fittingly, aspirin.

In spite of the weather and
...my own foibles, the Westches-
...ter event was quite enjoyable.
...I met some pleasant people. I
...got to play a beautiful, chal-
...lenging course. I even got
...some useful golf advice from
...Fiori, whom I came to view as
...likeable despite his incessant
...wisecracking. Another sam-
...ple: "Pete, have you ever
...thought about playing in one
...of those tennis pro-ams?" The
...truth hurts, but I've got to
...give him credit for telling it
...like it is.

Peter Finch



Smart Money

UTILITY STOCKS CAN DELIVER A NASTY SHOCK

Utility stocks have long been regarded as havens in times of market uncertainty—regulated companies with predictable earnings and steady dividends. But if you still think the group is all but risk-free, you may be in for a shock. In recent years, electric utilities have been busy diversifying into nonregulated ventures ranging from orange groves to basketball teams.

Yet in many cases, say analysts, diversification hasn't boosted a utility's bottom line much. And for some, such as Pinnacle West Capital, a Phoenix-based holding company that owns Arizona Public Service, losses have been large enough to cut into dividends and lower the stock price (BW—Jan. 30).

In some cases, diversification has cut dividends

Pinnacle rushed into such far-flung businesses as uranium mining, construction, and the Phoenix Suns basketball team. But its worst move was its \$426 million acquisition of Merabank, a savings and loan that began losing money soon after it was purchased in 1986. The utility has since sliced its dividend 40%, and the stock has gone from as high as 32 in 1987 to about 12 now.

CLOSE TO HOME. Most utilities have diversified more slowly than Pinnacle and have put less of their capital at risk. Still, you're better off sticking with a conventional utility, such as Union Electric or Louisville Gas & Electric, says analyst Barry Abramson at Prudential-Bache. Among the lightly di-

versified utilities, Abramson likes Public Service Enterprise Group and Consolidated Edison.

Utilities started branching out when demand fell short of expectations in the early 1980s. With power plant expansion programs halted, many utilities found themselves flush with cash—and ventured into businesses where there would be no cap on earnings.

Those that diversified most successfully usually stuck close to home. Such natural extensions of the business include local natural-resources development, real estate, and cogeneration plants that use waste energy to produce electricity.

SLOWER PACE. One of the more successful diversified utilities is SCE Corp. in Rosemead, Calif., says analyst Edward Tirello at Shearson Lehman Hutton. Through cautious expansion into cogeneration and financial services such as equipment leasing, Tirello says SCE has averaged a 19% return on equity in the past seven years—against the industry's 13% ROE.

Other diversified utilities that analysts like include Potomac Electric Power, Dominion Resources, Baltimore Gas & Electric, and PacifiCorp, which runs profitable coal and telecommunications companies.

Diversification is apt to continue, albeit at a slower pace. No one expects future programs to be as large and as aggressive as, for example, Pinnacle's was. And with electrical demand and construction budgets expected to rise over the next few years, the industry may provide its own cure for imprudent diversification efforts—simply by having less cash on hand. *Suzanne Woolley*



Travel

CLEARING A PATH FOR DISABLED TRAVELERS

Anyone who is disabled, or has family members who are, knows how difficult travel can be. It's no wonder some companies are specializing in travel for the physically handicapped, who number roughly 37 million Americans. With personal inspections and experience, the companies can steer clients clear of physical barriers and bad attitudes.

Family and friends are welcome on tours, which are usually first-rate. Prices are generally higher than conventional tours because of the need for spacious rooms and extra escorts.

One of the best for wheelchair travelers, Flying Wheels Travel (507 451-5005) in Owatonna, Minn., offers a variety of tours—from Caribbean cruises on ships with roll-in showers for about \$2,000 to a more adventurous trip to view the pyramids in Egypt for about \$1,400, plus air fare. Medically trained escorts accompany each tour.

Whole Person Tours (201 858-3400) in Bayonne, N.J., uses only motorcoaches with lifts. Unable to take groups down the steps to the Crown Jewels in London, President Robert Zywicki, himself in a wheelchair, schedules a session to try on official replicas.

"If we can't do one thing, we substitute another," he says. Zywicki also publishes a magazine that lists wheelchair-accessible vacations.

With 30 years' experience, Evergreen Travel Service (206 776-1184) in Lynwood, Wash., doesn't let much stand in its way. It has carried clients to the Great Wall of China and built a ramp so wheelchair travelers could ride an elephant in India.

GREATER ACCESS. Kidney dialysis patients might want to take a tour through Unique Reservations (800 544-7604) to Indian Rocks Beach, Fla. The firm sets up its own clinic with nephrologist and nurse on cruises to the Orient, South America, and Europe.

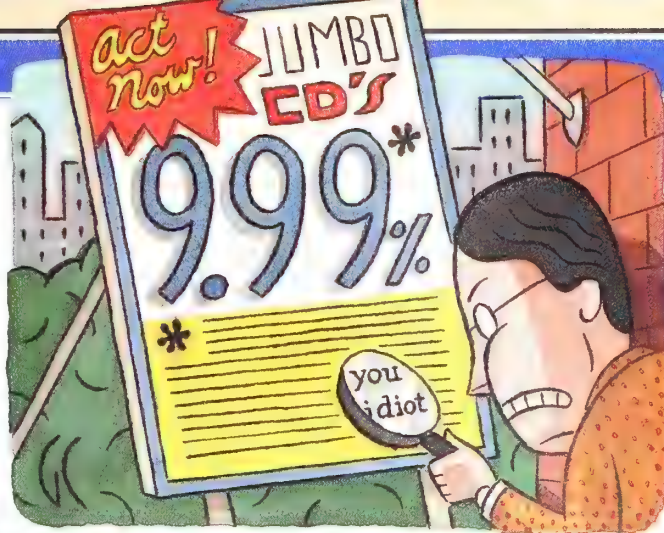
Nature lovers also have some options. All Outdoor (503 923-9264) in Redmond, Ore., conducts rigorous, rife frills outings in the Cascade for disabled people. Five days of white-water rafting, horseback riding, and hiking cost about \$400.

Others may want to try "heli-hiking" with Tauck Tours (203 226-6911) in Westport, Conn. For about \$1,400, groups stay in deluxe lodges in the Canadian Rockies and helicopter into the wilderness to explore or just take in the view. *Mary Pitz*

Banking

AN END TO THE FAST TALK IN BANK ADS?

Shopping for a bank account should be easy. But interest rates advertised for certificates of deposit, money market accounts, plain-vanilla savings accounts don't always add up without knowing more—such as interest compounding methods, minimum balance requirements, and penalties for early withdrawal—deposits may end up with less than they bargained for. If some lawmakers have their way, such confusion will end soon. Truth-in-savings legislation is pending in the



House and the Senate. While the two versions of the bill differ somewhat, both would mandate more uniform disclosure of bank deposit rates, minimum balance requirements, fees, and penalties.

RATE RUNAROUND. The bills would require banks to disclose in their ads the annual percentage rate—the one that

reflects compounding. Lawmakers also are asking for explanations of the formulas banks use to determine interest payments. Those calculations can yield differing results for otherwise identical accounts. Two accounts, both offering 10% simple interest and quarterly compounding, could result in different inter-

est payments, depending on the balance to which the interest is applied.

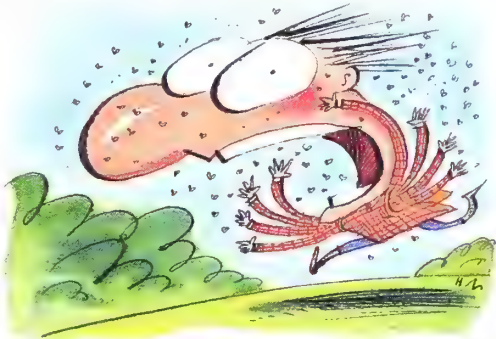
Under the so-called low balance method, interest is paid only on the lowest amount of money that was in the account during the interest period. Even though you have \$4,000 in an account at some point during the quarter, if your withdrawals drain it to \$1,000 even for a day, you would get interest on only that \$1,000. However, if the bank pays you interest according to the number of days any given amount of money is in the account, and the pattern of deposits and withdrawals is the same, your interest for the quarter could amount to about three times as much.

With truth-in-savings legislation, when a bank plays a numbers game, at least you'll know it. *Catherine Yang*

Outdoors

HOW TO KEEP MOSQUITOES OFF YOUR BACK

Except among lumberjacks, forest rangers, and other outdoorsy types, insect repellents have never been a hot topic of conversation. But tick-borne Lyme disease—reported in 43 states—has suddenly made bug spray a priority for just about anyone who ventures into the backyard this summer, let alone the woods. The active ingredient in most repellents is N, N-diethyl-m-toluamide, or “deet.” It wards off mosquitoes, as, ticks, chiggers, and biting flies by operating on the olfactory principle: It emits a odor that keeps insects from sensing your presence.



The only effective repellent that can be used on both skin and clothing, deet is available in solutions ranging from 15% to 100%. But it can be toxic, warns Dr. Albert Rosen, a pediatrician in Fair Lawn, N.J.: “It’s a dangerous drug and should be used sparingly.” Rosen recommends strengths of 25% to 40%, which can last for up to six hours; 100% deet lasts up to 10 hours, but, he says, is “overkill.” Be especially careful with young children, whose sensitive skin will absorb more of the repellent.



The three best-known brands are Cutter, Off!, and Muskol. They offer deet in lotions, pump sprays, aerosols, and roll-ons. Aerosols, which provide a maximum of 40% deet, are popular. When applying deet to your face and neck, first spray the repellent into the palm of your hand, and then wipe it on.

DEET DAMAGE. Deet-based products can damage synthetic fibers, painted surfaces, and plastics, so avoid getting any on plastic watches or eyeglasses. And since deet is

highly flammable, keep it away from fire or lighted cigarettes.

More controversial than deet is a tick defense that uses permethrin, a highly toxic pesticide approved by the Environmental Protection Agency for use on lawns. It repels and kills ticks and is the main ingredient in Permanone Tick Repellent, a spray for clothing, not skin. Permethrin is classified as a possible carcinogen, says the EPA, which hasn't finished assessing the product's risks. “We’re concerned that it could be transferred through clothing onto skin,” says an EPA spokesman. Nonetheless, 29 states, spurred by concern over Lyme disease, have special permits from the EPA that allow use of the spray on clothing. *S. W.*

Worth Noting

TIME=MONEY. Keep track of client billings with Northstar Telecom's new Meridian Hourglass telephone system (800 NOR-STAR). An

LCD display on the phone shows the name of the client and the amount of time the call took. It's \$1,175.

USED PRICES. The Auto Priceline, operated by the National Automobile Data Service in San Francisco,

gives used-car price ranges over the phone (900 999-CARS). Punch in your state, car model, make, and year, and they'll give you a high- and a low-price range. Cost: \$1.75 for the first minute, 75¢ a minute thereafter.

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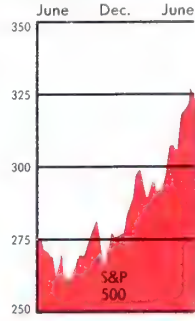
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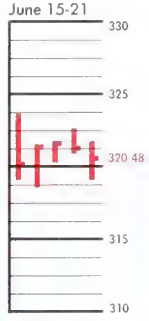
COMMENTARY

dollar, which has been surging for months, finally took a hit. It tumbled 2.3% in just a week, a move in the currency markets. Stock and bond markets edged back, too, but damage was moderate. Long-term interest rates edged up again after weeks of falling, and the Dow industrials dropped nearly 40 points. The broader market, however, suffered less than the Dow. Largely because of the dollar's drop, U.S. holders of foreign stocks saw their holdings rise 3.2%.

STOCKS

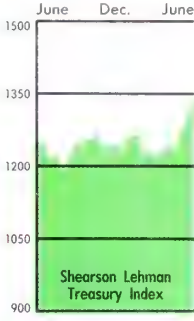


52-week change
+16.3%



1-week change
-1.0%

BONDS

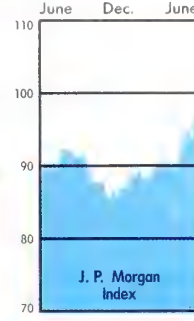


52-week change
+5.4%

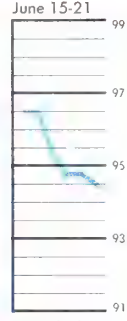


1-week change
-1.7%

THE DOLLAR



52-week change
+7.4%



1-week change
-2.3%

MARKET ANALYSIS

U.S. STOCKS

	Latest	% change Week	% change 52-week
DOW JONES INDUSTRIALS	2464.9	-1.5	14.5
500 COMPANIES (Russell 1000)	170.0	-1.0	16.5
2000 COMPANIES (Russell 2000)	170.3	-1.2	14.5
3000 COMPANIES (Russell 3000)	182.5	-1.0	16.3

FOREIGN STOCKS

	Latest	% change (local currency) Week	% change (local currency) 52-week
DOW JONES FINANCIAL TIMES 100	2172.2	1.8	15.6
DOW JONES NIKKEI INDEX	33,345.3	-0.2	19.7
DOW JONES TSE COMPOSITE	3730.5	1.4	8.3

FUNDAMENTALS

	Latest	Week ago	Year ago
90-DAY TREASURY BILL YIELD	8.4%	8.4%	6.7%
30-YEAR TREASURY BOND YIELD	8.3%	8.2%	8.9%
S&P 500 DIVIDEND YIELD	3.5%	3.4%	3.7%
S&P 500 PRICE/EARNINGS RATIO	12.5	12.7	14.7

TECHNICAL INDICATORS

	Latest	Week ago	Reading
S&P 500 26-week moving average	299.6	297.9	Positive
Stocks above 26-week moving average	67.7%	69.5%	Neutral
Speculative sentiment: Put/call ratio	0.25	0.21	Neutral
Insider sentiment: Vickers sell/buy ratio	2.00	1.84	Neutral

INDUSTRY GROUPS

4-WEEK LEADERS

	% change 4-week	% change 52-week
PUBLISHING	11.9	30.4
HOTELS AND MOTELS	11.8	53.0
HOMEBUILDING	10.9	57.8
BROADCASTING	9.2	51.6
DRUG CHAINS	9.2	17.0

4-WEEK LAGGARDS

	% change 4-week	% change 52-week
RECREATION TIME	-10.2	2.4
PAPER CONTAINERS	-6.3	2.3
HEALTH CARE SERVICES	-6.0	-13.7
COMMERCIAL SERVICES	-5.6	5.3
AFTER MARKET AUTO PARTS	-5.3	-6.5

Strongest stock in group

	% change 4-week	% change 52-week	Price
HARCOURT BRACE JOVANOVIH	42.3	40.5	137 7/8
HILTON HOTELS	20.4	107.3	98 3/4
KAUFMAN & BROAD	26.8	69.0	17 3/4
LIN BROADCASTING	29.8	95.5	125 5/8
WALGREEN	10.6	29.0	44 1/2

Weakest stock in group

	% change 4-week	% change 52-week	Price
HANDLEMAN	-20.1	35.3	28 3/4
STONE CONTAINER	-11.5	-17.5	26
BEVERLY ENTERPRISES	-9.9	42.2	8
NATIONAL EDUCATION	-32.3	-45.5	15 3/4
SPX	-29.9	-17.6	28 3/4

BRIDGE INFORMATION SYSTEMS INC.

MUTUAL FUNDS

LEADERS

	4-week total return	%
PHILADELPHIA	6.8	
DREYFUS CAPITAL VALUE	6.1	
EATON VANCE TOTAL RETURN	5.8	

LAGGARDS

	4-week total return	%
JOHN HANCOCK WORLD PACIFIC BASIN	-11.0	
FINANCIAL STRATEGIC PACIFIC BASIN	-9.6	
TYNDALL-NEWPORT GLOBAL GROWTH	-7.6	

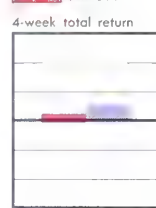
LEADERS

	52-week total return	%
KAUFMANN	56.5	
FIDELITY SELECT BROADCAST & MEDIA	48.7	
DELAWARE GROUP TREND	44.7	

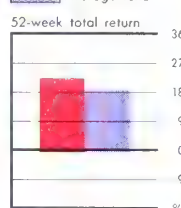
LAGGARDS

	52-week total return	%
STRATEGIC GOLD/MINERALS	-25.3	
SLH PRECIOUS METALS AND MINERALS	-22.6	
FINANCIAL STRATEGIC GOLD	-22.3	

S&P 500



Average fund



MORNINGSTAR INC.

RELATIVE PORTFOLIOS

Relative amounts
represent the present
value of \$10,000
invested one year
ago in each portfolio

Percentages indicate
1-day total returns



U.S. stocks
\$12,142
-0.67%



Foreign stocks
\$11,994
+3.23%



Treasury bonds
\$11,827
-0.77%



Money market fund
\$10,691
+0.16%



Gold
\$8,142
+2.20%

DATA RESOURCES INC.

Data on this page are as of market close Wednesday, June 21, 1989, unless otherwise indicated. Industry groups include S&P 500 companies only; performance and share prices are as of market close

June 20. Mutual fund returns are as of June 16. Relative portfolios are valued as of June 20. A more detailed explanation of this page is available on request.

ONWARD THE REVOLUTION IN BOARDROOMS

In the past decade, America's chief executives have been pressed to perform by foreign competition, takeover threats, and demanding institutional shareholders. Now, finally, their own boards are exhibiting signs of independent thinking and holding them up to stricter standards. That may be a threat to some. To many more, it should be a welcome challenge—a constructive one from the inside, rather than the outside.

Yet boards are still not strong enough or tough enough. While there's no perfect board structure or mode of operation, American corporations would do well to consider many of the ideas now being advanced to make directors more independent of the chief executive (page 66).

Clearly, outside directors should form the majority of the board because an internal majority is vulnerable to pressure from the CEO. A committee of outsiders should identify new directors. Most important, they should find ones who have relevant experience and the time to devote to board duties. Outsiders should have a regular forum for meeting independently—to review a CEO's performance and how he runs the board and to confer on whether they are getting the proper information. If need be, they should propose splitting the job of chairman and CEO.

Shareholders—particularly institutional investors—have a role in encouraging better boards, too. After all, they own most of Corporate America, and they could use that clout to get better performance. When they vote on directors each year, they should reject those candidates who sit on too many boards or who have been found wanting in their regular jobs. They can also complain directly to directors—who are their representatives—when CEOs don't seem to listen to their concerns.

Most CEOs got where they are because they have competitive personalities that can rise to challenges. They need not fear independent-minded outside directors. More vigilance from the board could go a long way toward making American corporations more competitive, too.

HOUSING: HELP THE POOR, NOT THE MIDDLE CLASS

The cynicism and greed surrounding the burgeoning Housing & Urban Development Dept. scandal is appalling. The manipulation of federal housing programs to line the pockets of developers and consultants raises anew a fundamental question: What role should Washington take in addressing the nation's daunting housing problems?

State and local governments and the private sector simply don't have ample enough resources. Even the estimated 4,000 local nonprofit community organizations, a dedicated vanguard grappling with homelessness and poverty, are only chipping away at the problem. After all, more than 60%

of households below the federal poverty level spend more than half their incomes on rent and utilities.

There is a move in Congress for the first time in over a decade to address the nation's housing problems. But Congress is considering combining a good idea with a bad idea, and it doesn't take the good idea far enough. It is looking at combining needed programs for housing the poor with the needed federal subsidies for the middle-class homebuyer. Yet the basic housing problem is, quite simply, poverty. A universal entitlement to housing assistance through a voucher system should be the foundation of a federal commitment to end the low-income housing crisis.

First-time homebuyers are much better off than low-income renters. It's a mistake to help them meet high down payments and inflated home prices in major urban markets. After all, in this era of debilitating budget deficits, federal money is limited. Further tax subsidies to the home-owning class, already getting a break to the tune of \$35 billion a year in mortgage-interest deductions, can only build future home price inflation into the market. The federal government would be wiser to use its resources to combat poverty.

HOW TO KEEP BONN IN NATO'S TENT

West Germans' enthusiasm for East-West détente stirs unease among their NATO allies. Although West Germany is NATO's European linchpin, it is under scrutiny for signs of wavering in its commitment to the West. One reason: Bonn's resistance to modernizing NATO short-range nuclear missiles. It's understandable, since such missiles would mostly explode on German soil.

Even deeper misgivings are awakened by Germans' yearning for reunification of their divided country, an issue that Chancellor Helmut Kohl raised with Soviet leader Mikhail Gorbachev in Bonn. Many Western observers fear that West Germany might accept neutral status as the price for reunifying with East Germany. This anxiety reflects another concern: A united Germany would become an even more dominant economic power on the Continent than it is today.

In fact, there's no reason to think that Moscow, worried about losing its own grip on Eastern Europe, would be willing to let East Germany secede from the Soviet-led Warsaw Pact and join a neutralized Germany. But the way for Bonn's allies to make sure that it stays closely tied to the West is not to keep harping on its supposed fickleness—complaint that is bound to stir an angry backlash among West Germans—but to make sure that its ties with the West serve German interests as well as those of its allies. To do that requires following through with plans to achieve a more integrated and dynamic European Community. And it requires pushing ahead with steps to expand East-West détente, such as the proposed cutbacks in conventional forces in Europe. Reducing the threat of war and lowering barriers to the movement of goods, people, and ideas will ease the divisions between East and West—including the two Germanies. Although the road to German reunification may be long and slow, such steps can help pave the way.

July 10

SALE AT SEARS
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BACKLASH AGAINST CHINA ▶ LATIN AMERICA'S PLIGHT

BusinessWeek

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GO TEAM!

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The Payoff From Worker Participation

When workers are included in decision-making, quality can improve and productivity often goes up. So why won't labor and management cooperate more?

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AT THIS YEAR'S UAW CONVENTION IN ANAHEIM, CALIF., FOES OF TEAMWORK MADE THE NOISE, BUT ITS SUPPORTERS CARRIED THE DAY

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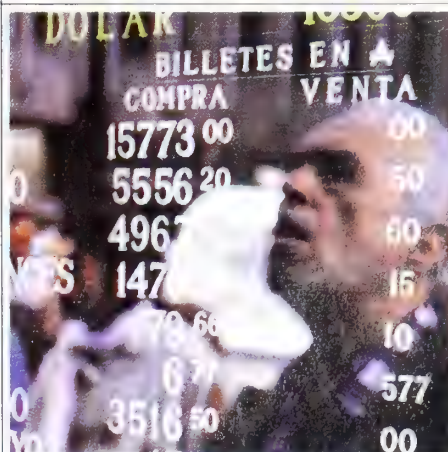
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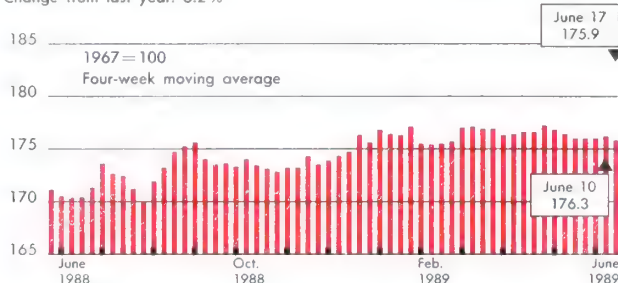
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BusinessWeek Index

PRODUCTION

Change from last week: -0.2%
Change from last year: 3.2%

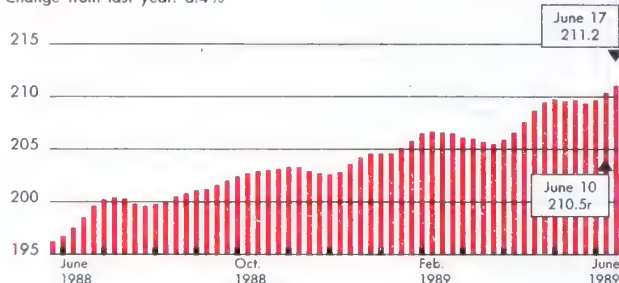


The production index decreased for the week ended June 17. On a seasonally adjusted basis, output for autos, trucks, electric power, and lumber declined. Drops in coal production and rail-freight traffic were probably the result of strikes at some coal mines. Paper, lumber, paperboard, and steel production all posted increases. Before calculation of the four-week moving average, the index fell to 173.7, from 175.7 the previous week.

BW production index copyright 1989 by McGraw-Hill Inc.

LEADING

Change from last week: 0.3%
Change from last year: 6.4%



The leading index edged up for the week ended June 17 as the index resumed climbing in June after some weakness in May. For the latest week, lower bond yields and faster growth rates for materials prices, real estate loans, and M2 slightly offset lower stock prices and a small rise in the number of business failures. Prior to calculation of the four-week moving average, the index increased sharply, to 213.6 from 211.4 the week before.

Leading index copyright 1989 by Center for International Business Cycle Research

PRODUCTION INDICATORS

	Latest week	Week ago	% Change year ago
STEEL (6/24) thous. of net tons	1,881	1,924 #	3.2
AUTOS (6/24) units	138,869	142,566r #	-13.2
TRUCKS (6/24) units	81,499	88,508r #	-0.3
ELECTRIC POWER (6/24) millions of kilowatt-hours	58,148	54,477 #	-5.3
CRUDE-OIL REFINING (6/24) thous. of bbl./day	13,994	13,790r #	2.9
COAL (6/17) thous. of net tons	18,237 #	19,482	2.5
PAPERBOARD (6/17) thous. of tons	766.7 #	753.7r	2.6
PAPER (6/17) thous. of tons	738.0 #	720.0r	1.5
LUMBER (6/17) millions of ft.	506.8 #	501.4	5.4
RAIL FREIGHT (6/17) billions of ton-miles	18.9 #	19.6	-1.6

Sources: American Iron & Steel Inst., Ward's Automotive Reports, Edison Electric Inst., American Petroleum Inst., Energy Dept., American Paper Inst., WWPA¹, SFPA², Association of American Railroads.

FOREIGN EXCHANGE

	Latest week	Week ago	Year ago
JAPANESE YEN (6/28)	143	144	134
GERMAN MARK (6/28)	1.96	1.98	1.82
BRITISH POUND (6/28)	1.56	1.55	1.70
FRENCH FRANC (6/28)	6.66	6.68	6.14
CANADIAN DOLLAR (6/28)	1.20	1.20	1.22
SWISS FRANC (6/28)	1.69	1.71	1.51
MEXICAN PESO (6/28) ³	2,501	2,493	2,300

Sources: Major New York banks. Currencies expressed in units per U. S. dollar, except for British pound expressed in dollars.

PRICES

	Latest week	Week ago	% Change year ago
GOLD (6/28) \$/troy oz.	373.750	365.900	-13.8
STEEL SCRAP (6/27) # 1 heavy, \$/ton	114.50	114.50	3.6
FOODSTUFFS (6/26) index, 1967=100	226.0	224.8	-11.2
COPPER (6/24) c./lb.	118.8	115.8	3.2
ALUMINUM (6/24) c./lb.	88.8	87.5	-34.2
WHEAT (6/24) # 2 hard, \$/bu.	4.35	4.45	9.8
COTTON (6/24) strict low middling 1-1/16 in., c./lb.	64.67	64.65	1.3

Sources: London Wed. final setting, Chicago mkt., Commodity Research Bureau, Metals Week, Kansas City mkt., Memphis mkt.

LEADING INDICATORS

	Latest week	Week ago	% Change year ago
STOCK PRICES (6/23) S&P 500	322.78	323.08	18
CORPORATE BOND YIELD, Aaa (6/23)	9.09%	9.02%	-7
INDUSTRIAL MATERIALS PRICES (6/23)	105.0	104.7	3
BUSINESS FAILURES (6/16)	235	231	1
REAL ESTATE LOANS (6/14) billions	\$328.8	\$327.1r	14
MONEY SUPPLY, M2 (6/12) billions	\$3,083.4	\$3,079.8r	2
INITIAL CLAIMS, UNEMPLOYMENT (6/10) thous.	326	309r	9

Sources: Standard & Poor's, Moody's, Journal of Commerce (index: 1980=100), Dun Bradstreet (failures of large companies), Federal Reserve Board, Labor Dept. CIBC SR seasonally adjusts data on business failures and real estate loans.

MONTHLY ECONOMIC INDICATORS

	Latest month	Month ago	% Change year ago
12 LEADING INDICATORS COMPOSITE (May) index	143.8	145.5r	1
PERSONAL INCOME (May) annual rate, billions	\$4,389.7	\$4,376.7r	9
ORDERS FOR DURABLE GOODS: MFG. (May) billions	\$124.0	\$129.4r	7
BUDGET SURPLUS OR DEFICIT (-) (May) millions	-\$25,466	\$40,571r	-12

Sources: Commerce Dept., Treasury Dept.

MONETARY INDICATORS

	Latest week	Week ago	% Change year ago
MONEY SUPPLY, M1 (6/12)	\$769.5	\$776.1r	-0
BANKS' BUSINESS LOANS (6/14)	316.4	317.2r	4
FREE RESERVES (6/14)	412r	657r	89
NONFINANCIAL COMMERCIAL PAPER (6/14)	123.5	125.6	30

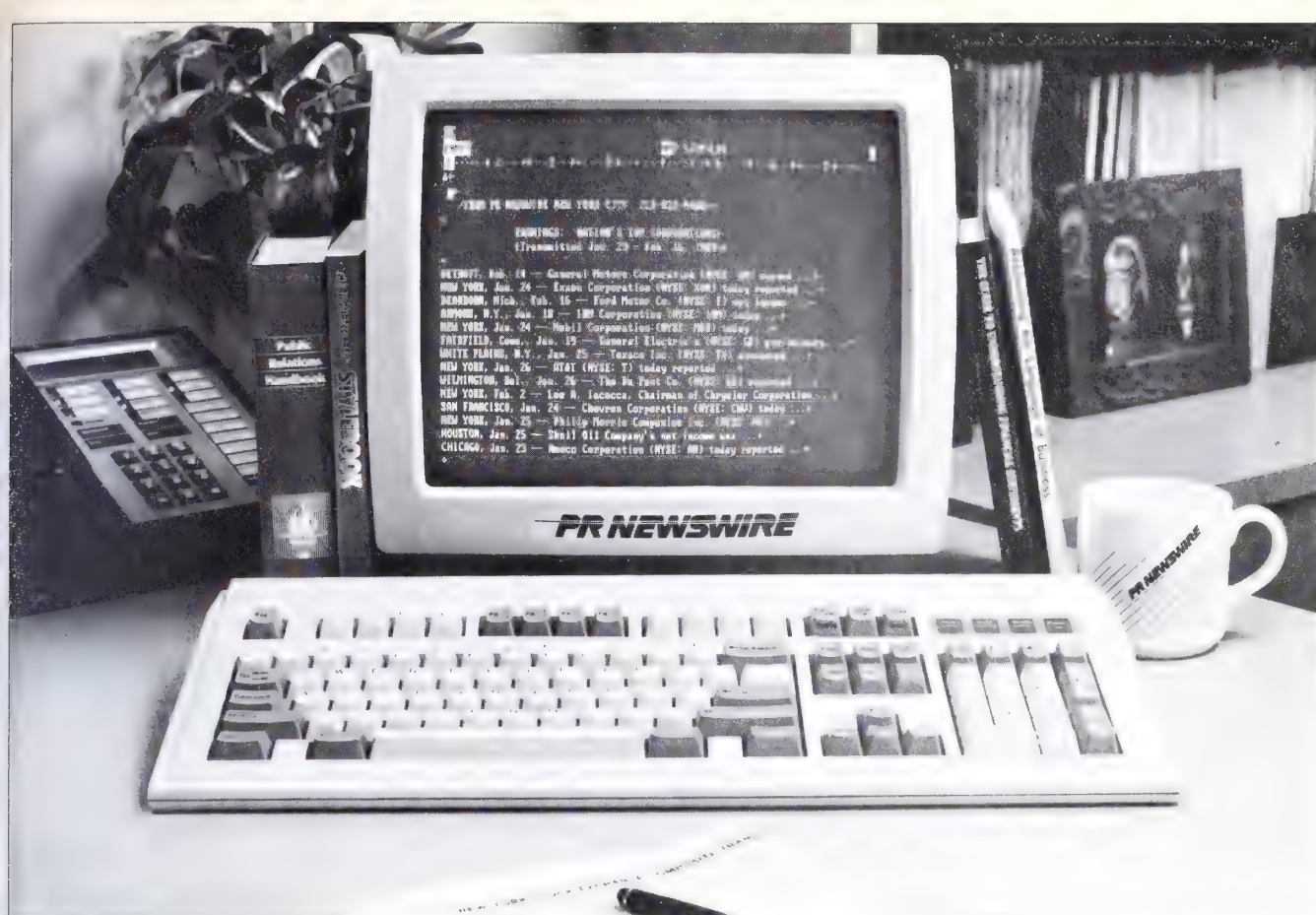
Sources: Federal Reserve Board (in billions, except for free reserves, which are expressed in a two-week period in millions).

MONEY MARKET RATES

	Latest week	Week ago	Year ago
FEDERAL FUNDS (6/27)	9.55%	9.41%	7.63
PRIME (6/28)	11.00	11.00	9.00
COMMERCIAL PAPER 3-MONTH (6/28)	9.09	9.14	7.55
CERTIFICATES OF DEPOSIT 3-MONTH (6/28)	9.20	9.30	7.58
EURODOLLAR 3-MONTH (6/21)	9.30	9.18	7.61

Sources: Federal Reserve Board, First Boston

Raw data in the production indicators are seasonally adjusted in computing the BW index (chart); other components (estimated and not listed) include machinery and defense equipment.
1 = Western Wood Products Assn. 2 = Southern Forest Products Assn. 3 = Free market value NA = Not available r = revised NM = Not meaningful



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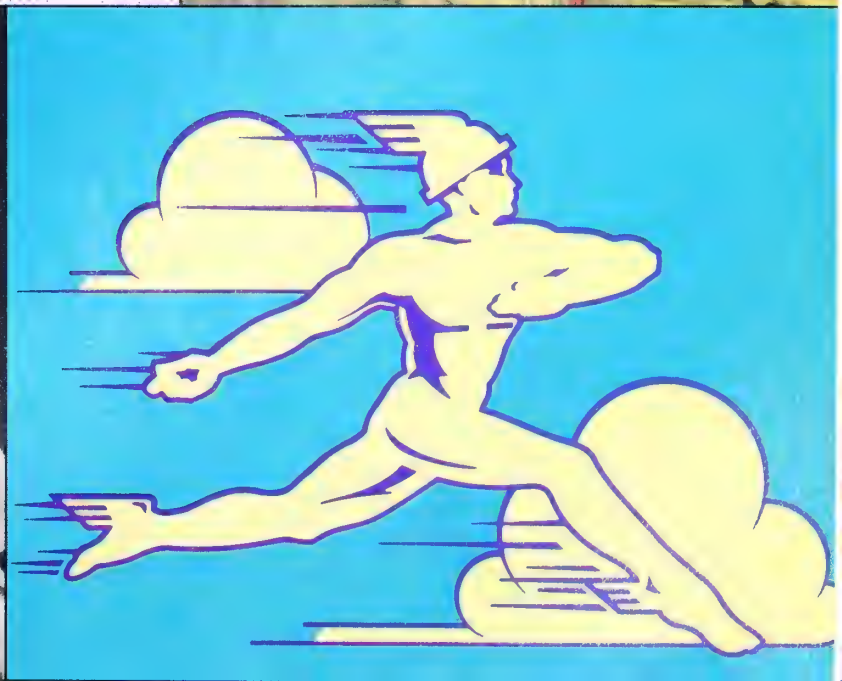
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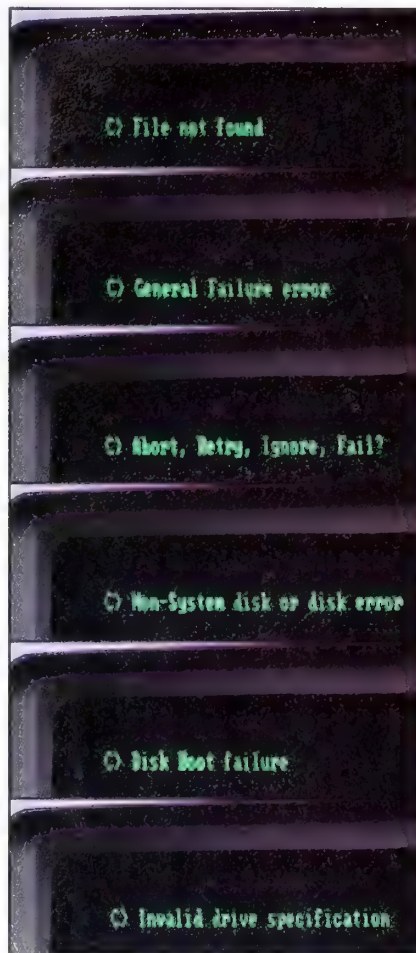
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PRICE CAPS ON PHONE-RATES: A GOOD FIRST STEP

Alan S. Blinder's perceptive commentary on the new FCC price-cap plan for American Telephone & Telegraph Co. ("Don't laugh: This plan for regulating AT&T actually sounds good," Economic Viewpoint, June 12) affirmed the argument that moving away from "cumbersome and adversarial" rate-of-return proceedings can better mimic the competitive marketplace and lead to lower prices. A similar plan, minus the flexibility to rebalance specific price disparities, was tried by regulators of Michigan Bell for three years in the early 1980s.

The trial succeeded in holding rate changes below what they would have been under a make-whole rate-of-return regime and significantly improved company productivity. In a recent order, however, a new Michigan commission refused the company's request to renew the concept, opting instead to fall back on "arbitrary accounting procedures" cited by Professor Blinder. Let's hope the FCC's action will lead state regulators to loosen the fetters on local carriers so that the benefits of improved efficiency and innovation can flow to consumers in the entire telecommunications market.

Howard K. Face
Detroit

Alan Blinder's otherwise excellent column on the FCC's replacement of rate-of-return regulation of AT&T with price caps ignores the major rationale for easing AT&T's regulatory burden: The long-distance industry in which AT&T participates is now vigorously competitive. In recent years, our competitors have multiplied. Together, those competitors now have more network capacity than AT&T does, and AT&T's market share has plummeted, especially in the most profitable segments of the market—which our rivals target. It simply makes no sense—and is harmful to consumers—to apply monopoly-type regulation to a competitive industry.

Even without rate-of-return limits, AT&T is still subject to substantial regulation. As Blinder notes, it is the only

long-distance carrier so burdened. The corporation regards such asymmetric regulation as an anachronism that's harmful to the competitiveness of the entire U.S. economy—to which telecommunications is becoming increasingly vital. Because of the threat of regulatory delay, some customers hesitate to use AT&T, and our rivals often use the regulatory process to delay AT&T's introduction of new services. While price caps are an improvement over rate-of-return limits, they are merely a first step toward the more streamlined regulation that is needed.

Lawrence Garfinkel
Vice-President, Government Affairs
American Telephone & Telegraph Co.
Basking Ridge, N.J.

PATENT LAW IS NOT THE PROVINCE OF NERDS

Patent lawyers are not in need of revenge ("Revenge of the nerds: Patent lawyers grab the spotlight," Legal Affairs, May 22). Nerds are nebbishes—ineffectual people. But our stock-in-trade is excitement, imagination, and innovation—the stuff that really makes America great. Superconductors and cold fusion have captured the imagination of even the technologically illiterate. From a patent lawyer's point of view, defining and protecting rights to such priceless, fascinating concepts is far more interesting than grinding away in dingy courtrooms defending the rights of criminals.

Gregory J. Maier
Oblon, Spivak, McClelland,
Maier & Neustadt
Arlington, Va.

WHY ACTIVISM IS BACK IN VOGUE

I want to expand on the observations made in "Fighting Back: The resurgence of social activism" (Top of the News, May 22). An attitude is developing that is beginning to affect both the corporate and public sectors. It is fueled by disgust with:

■ Corporate stock speculators who disrupt individual lives, organizations, and communities by causing repeated "re-

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Social activism through consumer protests, citizen-oriented PACs, and grassroots political participation is likely to increase. For true believers, it will mean choosing careers that channel their time, talents, and energies into social services, not-for-profit organizations, and public-sector activities.

Suzanne J. Mendoza
Glendale Heights, Ill.

ON'T SELL SANTA FE SHORT

Sam Zell, the perpetual dealmaking "machine" (People, June 26) leaves some incorrect impressions about the value of Santa Fe Pacific Corp. stock.

It's true that the shares currently trade at about 23 and that the precrash high was 64, which was reached primarily on the basis of takeover rumors. However, your article overlooks the fact that on Jan. 26, 1988, we declared a special dividend as part of a major restructuring program. Through that special dividend, we paid out about \$4.8 billion to our shareholders. This dividend was valued at over \$30 a share, including \$25 in cash and \$5 principal amount of debentures, which trade at a premium and pay interest of 16% annually. We and nearly everyone else expected the special dividend to have a negative impact on the share price.

The most meaningful figure as far as our stock performance is concerned is that since early 1987, when rumors about a takeover began, our compound annual return has been more than 100%, including dividends, interest on the debentures, and today's market price.

Robert D. Krebs
President and CEO
Santa Fe Pacific Corp.
Chicago

DO AMERICANS REALLY LOVE INFLATION?

I read with amusement the comment about inflation in "The Fed seems to be wrestling inflation into submission" (Business Outlook, June 5). By stating that "inflation . . . is not growing into the major patch that the financial markets had feared," you pick up on the brilliant

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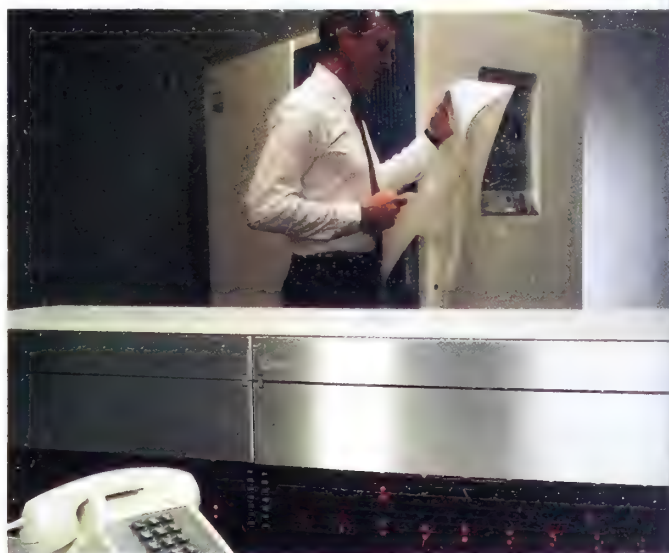
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Readers Report

1988 strategy report, *The Briar Patch Effect*, by Mike Aronstein of Comstock Partners. Aronstein states that society's fear of inflation is analogous to Br'er Rabbit's fear of the briar patch when he finds himself in the clutches of Br'er Fox and Br'er Bear.

The fact that inflation is probably the only financial escape for many in our over-leveraged, over cost-of-living-adjusted society makes taming inflation at much more unlikely any time soon.

Douglas A. Behnfield

Vice-President

Merrill Lynch, Pierce, Fenner & Smith Inc.

Denver

PAINTING THE WRONG PICTURE ON OZONE DEPLETION

The illustration for the article "Just when the ozone war looked winnable..." (Science & Technology, June 1988), which shows an aerosol can, contradicts the factual discussion of chlorofluorocarbons (CFCs) and the ozone-depletion problem. It is disconcerting that the article's heading "Cutting down on ozone-eating chlorine," powerfully suggests that aerosols still contain CFCs.

Evelyn R. McFeaters

Associate Director

Chemical Specialties Manufacturers

Assn.

Washington

WHO IS SETTING THE AGENDA ON ARMS CONTROL

Our editorial on Mikhail Gorbachev's conventional reductions proposal ("Why let Gorbachev hog the initiative?" Editorials, May 29) is misleading. On Mar. 6, James Baker and other NATO ministers launched a very imaginative and detailed Western plan for reducing conventional arms in Europe. The East is still short of matching even as they eye headlines like this one. The significance of Gorbachev's six conventional force numbers published in Moscow is that on the three categories of armaments that the West has identified as a priority for reduction, his numbers are the same as ours for two, and lower for one. NATO is, in fact, shaping the arms control process.

Ambassador Stephen J. Ledogar

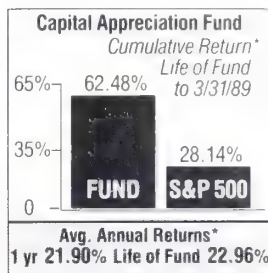
S. Representative to the Conventional Forces in Europe Negotiations

Vienna

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FROM BEIRUT TO JERUSALEM

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IS ISRAEL FATED TO BECOME ANOTHER LEBANON?

Toward the end of *From Beirut to Jerusalem*, Tom Friedman tells about a small dinner party he attended in the summer of 1988 in Herzlia, a leafy seaside suburb of Tel Aviv. He was seated next to a senior Labor Party Cabinet member, and the discussion drifted to such subjects as the U.S., the economy, and the Arabs. Friedman asked his neighbor what kind of moral challenge the *intifada*—the current uprising of West Bank and Gaza Strip Palestinian Arabs—posed for the Israeli army. The man said: "If you ask me, the sooner the Palestinians return to terrorism, the better it will be for us."

How times have changed. Until the Six Day War and Camp David talks, every Israeli's worst fear was of vengeful Arab armies crashing across the long desert borders of their small, embattled nation. These days, many Israeli citizens have a new nightmare. They see their country turning into one where communities are locked in uncontrollable combat—not just between Arabs and Jews, but between Jews and Jews. A country, in fact, very much like Lebanon.

Although Lebanon and Israel are vastly different, they have some disturbing things in common. Politicians in both countries seem incapable of facing certain critical realities. The root of Lebanon's agony was the perpetuation of the myth of a Maronite Christian majority. That myth skewed the Lebanese political system for decades after independence, until the country blew up in civil war in 1975. Fourteen years later, little has been resolved.

Israel is equally adept at ignoring hard truths, contends Friedman in this forceful account of his six-year Mideast assignment for *The New York Times*. In 1967, Israel conquered the West Bank, the Gaza Strip, and East Jerusalem, controlling almost 2 million Palestinians. More than 20 years later, Israel has not found a way to accommodate them. And with the Jews torn apart over the issue as never before, accommodation seems increasingly distant.

The intractability and terrorism

of the Palestine Liberation Organization under Yasser Arafat haven't helped. But according to Friedman, Jerusalem has not worked very hard to find a workable solution, either. Instead, it has reacted to events. "Israeli leaders are always waiting for the phone call from the Arabs; few of them know how to dial themselves," he remarks.

If the Israelis called, what would they say? Jerusalem, like Beirut, still is bitterly divided on crucial questions: What kind of boundaries should Israel have? What kind of power-sharing? What religious and moral values? Says Friedman: "Both the Lebanese people and the Israeli people have failed to resolve their differences on these fundamental questions and have become politically paralyzed as a result." In Lebanon, the paralysis is called anarchy. In Israel, it's called a coalition government.



DISPLAYING THE PALESTINIAN COLORS IN THE GAZA STRIP

Friedman excels at observing not only the major players but also the little people buffeted by the traumas in Lebanon and Israel: from a tragic Menachem Begin to a Tel Aviv bartender; from Arafat, "the Teflon Guerrilla," to a Palestinian used-car dealer. But the book also tells the story of Friedman's journey—that of an American Jew who goes from an exuberant, even fanatical support of Israel at his Minnesota high school in the late 1960s to a more mature appreciation of the Mideast's deep-seated problems. Friedman brings his personal baggage out into the open. His coverage of the Sabra and Shatila massacres in 1982, when the occupying Israeli Army looked the other way as its Lebanese Christian allies shot unarmed Palestinians, didn't just win him a Pulitzer prize. It also, he tells us, shattered his last illusions about the Jewish state.

But if Friedman is tough on Israel, he is scathing about Arafat and the PLO. Aging Palestinian guerrillas lived a fantasy in their golden exile in Beirut, with its hot nightlife, intellectual ferment, and fawning Western correspondent. Writes Friedman: "It made it easy for the PLO to continue avoiding the concessions for peace, which might have brought about a negotiated settlement with Israel, and to continue pretending that it was preparing for war with Israel, when in fact it was doing no such thing."

That situation came to an abrupt end in 1982, when the Israeli army under Defense Minister Ariel Sharon forced the PLO leadership to flee Lebanon for Tunisia. But this hardly solved Israel's problems. Even as it has brought new waves of violence, the *intifada* has put pressure on the chastened PLO to pursue a diplomatic solution. And negotiating a settlement may be Israel's toughest battle yet.

As Friedman describes Beirut, the blood-drenched city seems more a state of mind than a physical location. His title suggests Jerusalem still is some distance from that terrible place. But like the constant carnage in Lebanon, the shooting of Arab teenagers and the knifing of elderly Jews, Israel have become a way of life. Unless the Israelis and Palestinians end their feud and focus on the future, says Friedman, going from Beirut to Jerusalem will be no journey at all.

BY JOHN ROSSANT

Rome Correspondent Rossant, who did graduate work in Egypt, covers Israel and the Arab world.

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TWO CHEERS FOR BUSH'S PLAN TO CLEAN UP THE CLEAN AIR ACT

BY ALAN S. BLINDER



The President has rightly opted for market incentives—the cheapest and most efficient way to hit clean-air goals. But, in some areas, Bush is relying on the clunky old approach: Telling companies and cities what to do

W e economists who write about public policy often wonder why we bother. But now and then an obvious truth wins out in a policy debate, giving us fresh hope. President Bush's recent proposals for amending the Clean Air Act are a case in point. The President's recommendations embody a principle long cherished by economists: that the nation can and should use market incentives to clean up its air and water. Almost two years ago in this space, I advocated the use of marketable emissions permits as an economically and politically attractive way to clean up the environment. The idea hardly originated with me; economists have been promoting it, mostly to deaf political ears, for decades.

The main virtue of a market-oriented approach is its low cost. Because companies differ in their ability to reduce emissions, it is vital to assign the task to the ones best able to carry it out. Government agencies find this devilishly hard. But the market system caters to individual differences easily and effortlessly.

One study found that it cost a paper-products factory \$4 a year to reduce particulate emissions by a ton, while the same reduction cost a brewery in the same city \$600. A law requiring equal one-ton reductions by each company would therefore have cost society \$604 per year. If, instead, emissions permits were sold for, say, \$100 per ton, the brewery would buy permits rather than reduce emissions. But the factory would find it cheaper to cut pollution than to buy permits. The cleanup job would therefore be assigned to the factory, and the social cost of a two-ton pollution abatement would drop to \$8.

Dramatic cost savings are not the only virtue of market-based approaches. Price incentives also tend to be less bureaucratic and adversarial than traditional command-and-control techniques. In addition, the government can raise revenue by selling emissions permits.

FREEBIES. The Bush plan falls some distance short of the ideal. For example, it raises no revenue because it gives pollution rights away rather than selling them—which seems a shame. But it certainly takes several meaningful steps in the right direction.

While tightening standards on emissions of sulfur dioxide and nitrogen oxides, the pollutants primarily responsible for acid rain, the Administration would cushion the blow by giving 107 power plants in 18 states the freedom to decide how to comply. They can install scrubbers, burn cleaner coal, adopt new technologies, or simply produce less electricity—in whatever combination they wish—so long as they meet the perfor-

mance standards. In addition, a company that emits less than the federal standard at one plant would be allowed to exceed the standard at another plant or to trade its "pollution credits" to other companies in the same state.

This rather limited trading system to expand when the second, stricter phase goes into effect in 1995. Large regional markets are envisioned in which pollution permits are traded like securities. Rights to pollute will be bought by companies that most value them. Environmental groups could even buy some of the rights and not use them, thereby reducing overall emissions.

CAR TRADING. Regrettably, the Administration's proposals to improve the quality of urban air are less market-oriented. The centerpiece is a controversial provision that would eventually require automakers to build a million cars per year that burn clean fuels (such as ethanol, methanol, and natural gas) and sell them in the nine most polluted urban areas. This is a clear throwback to command-and-control. But, even here, cities could opt out of the alternative fuels program by finding better ways to reduce ozone and carbon dioxide. In addition, the President has directed the Environmental Protection Agency to institute a trading system so that carmakers that do not sell enough clean-fuel cars can comply with the law by buying certificates from those that sell more than their quota.

Only in the case of industrial emissions of particulate matter has the Administration eschewed market-based approaches entirely and stuck with the old method of mandating use of the "maximum available control technology." It is an unfortunate inconsistency in the President's plan that should be repaired.

Congress will no doubt tinker with the Administration's proposals—as is its duty. For example, it will debate whether the permissible levels of pollution are too high or too low. As an economist, I take no position on this issue. Unfortunately, scientists know too little about the harm done by many pollutants, and economists know too little about the money value of better health and greater longevity. And, if you can quantify only the costs of pollution abatement, not the benefits, it is hard to estimate the "optimal" level of pollution.

But economists can answer an easier question: What is the least costly way to achieve any given level of air quality? The answer is: by using market incentives. So, whether Congress tightens or loosens the standards, it is vital that the market-oriented aspects of the Bush proposal be retained or even strengthened. If not, the nation may find itself priced out of the market for clean air.

ALAN S. BLINDER IS THE GORDON S. RENTSCHLER MEMORIAL PROFESSOR OF ECONOMICS AT PRINCETON AND THE AUTHOR OF *HARD HEADS, SOFT HEARTS*



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BY GENE KORETZ

DON'T COUNT ON A SECOND-HALF SURGE IN CAPITAL SPENDING

Suddenly, there are disquieting signs that the big second-half pickup in capital spending projected by the government's latest survey may not be realized. One omen is the \$400 million drop in imports of capital equipment in April. More worrisome is the news that orders for nondefense capital goods plunged 8.3% in May. Although a big drop in aircraft orders deepened the decline, less volatile machinery and electrical equipment orders still fell 3.4% and 4.5%, respectively. Economists at Merrill Lynch Capital Markets, who see a mild recession ahead, note that "capital goods orders and shipments are actually running below the pace they set during the final year of the past three expansions."

INTEREST RATES COULD TAKE THE DOLLAR ON A RIDE DOWNHILL

For months, currency traders have been mesmerized by the dollar's amazing strength as it extended and intensified the upward move that began more than a year ago. Mesmerized, that is, until late June, when the dollar suddenly disengaged itself from strengthening U.S. financial markets and plunged 8.6% against the yen and 5% against the mark in a single week.

Some economists believe that the greenback's decline was simply a temporary technical correction and that its buoyancy will return. Others argue that the dollar's current strength threatens to worsen inflation overseas and retard progress in correcting trade and payments imbalances—developments that central bankers are determined to avoid.

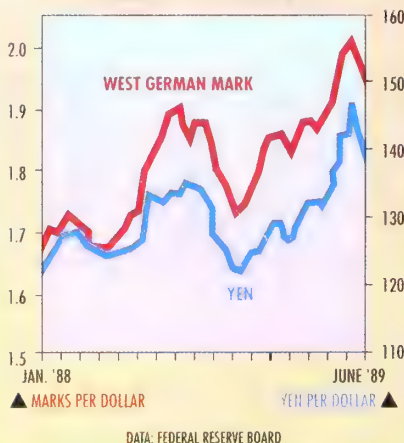
Economist Christopher Probyn of DRI/McGraw-Hill contends that fundamental economic factors such as inflation trends, purchasing power differentials, and even trade flows affect exchange rates only indirectly and over the long term (as they inspire changes in nations' macroeconomic policies). "Unfortunately," he says, "the theory that purchasing power parity (PPP) or the relative buying power of currencies determines exchange rates has proved almost completely inadequate in explaining the dollar's behavior in the 1980s." On a PPP basis, for example, the dollar became significantly overvalued by early 1983,

but continued to rise for two more years. Moreover, while some experts believe the dollar is still undervalued, Probyn's own calculations suggest that it is near its appropriate long-run level.

"An analysis of the dollar's movements in the 1980s," says Probyn, "indicates that it is interest-rate differentials that are largely responsible for short- and medium-term movements in exchange rates. That's because international financial markets adjust more rapidly than goods markets and are focused on short-term profits."

The generally widening gap between high U.S. rates and lower foreign rates from 1980 through early 1985, for example, helps explain the dollar's prolonged ascent in that period. Similarly, when rate spreads narrowed after the Federal

IS THE STRONG DOLLAR HERE TO STAY?



DATA: FEDERAL RESERVE BOARD

Reserve Board eased in late 1984, the dollar plummeted—only to stabilize when the Fed tightened in early 1987 and then start down again when rates were lowered after the October crash.

The dollar's latest strengthening trend began when the Fed turned restrictive in April of last year, says Probyn. And when interest-rate spreads widened sharply in favor of the U.S., foreign investors rushed to buy dollar securities, causing the dollar to rise even more (thus enhancing their own returns).

Now, however, the process is starting to reverse itself. In the wake of the Fed's modest easing and some rate hikes overseas, interest-rate spreads have started to narrow—causing the dollar to waver and speculators to back off, at least temporarily. Sometime within the next few months, predicts Probyn, the Fed is likely to ease further to shore up the sluggish economy, while foreign monetary authorities tighten again. "At that point," he says, "dollar weakness will return in earnest."

THE RISE IN BIRTHS IS ONLY AN ECHO OF THE BABY BOOM

In the 12 months that ended in February, some 3.9 million infants were born, the most since 1964. Meanwhile, the latest report on the U.S. fertility rate—the projected average number of children per woman based on current fertility exhibited by women of different ages—indicates that it has now risen to 1.9 from its 1976 low of 1.7.

Does all of this imply the first stirrings of a new baby boom that could produce an even larger number of workers to support the original baby boomers when they hit their retirement years? Not at all, says demographer Carl Haub of the Population Reference Bureau, who attributes the rise in births to the large number of baby boom women now in their reproductive years. Indeed, the latest fertility rate is still a far cry from the 3.7 postwar record chalked up by American women in the mid-1950s.

"The fertility rate hit a low in the mid-1970s," explains Haub, "because at that time, it reflected the reduced fertility of both of younger women and of older women who were born in the 1940s and had already had their children." The latest fertility rate is more realistic because it reflects the higher fertility of those now in their 30s who put off having kids when they were younger. But women overall are still having fewer children than the population replacement level of 2.1 per woman, "and there's no sign yet that that is changing."

U.S. POPULATION MAY SWELL MOST AT THE BOTTOM RUNGS

Government statistics on recent births reveal other intriguing trends that point to a rising population of the economically disadvantaged. Close to 25% of all children born in the U.S. today are born out of wedlock (compared with just 1% in Japan). While such births now account for more than half of black infants and a quarter of Hispanic infants, the rate for white has also risen to 15%—double the rate for all Americans in the mid-1960s. According to a recent article in *American Demographics*, black, Hispanic, and Asian kids under 18 will make up 31% of the total youth population next year and 38% by the year 2010.

CONSUMERS ARE STILL TIGHTFISTED— AND THE ECONOMY IS FEELING THE SQUEEZE

The Federal Reserve Board's dose of higher interest rates has broken the feverish pace of economic growth. That's good news for the inflation outlook. But higher rates can often have bad side effects. The Fed seems to be walking the economy along a precariously thin line between slowdown and recession.

The latest data show that sluggish growth in the first quarter continued into the spring. And there may be further slowing yet to come: The government's index of leading indicators, those that turn up or down ahead of the economy, tumbled 1.2% in May as 9 of the 11 indicators fell (chart). Except for a 1.8% drop in November, 1987, caused mainly by the October, 1987, plunge in stock prices, the decline was the largest in 4½ years.

The economy looks increasingly listless, mainly because consumers were as reluctant to shop in the second quarter as they were in the first. Even though their incomes are still growing, consumers are saving more and spending less—particularly for cars.

Despite Detroit's buyer incentives, June auto sales receded to their anemic pre-incentive levels

in the first quarter. Weak car sales and the downturn in housing provide a classic formula for a soft economy: Both sectors have far-reaching impacts.

The tremors may be hitting the manufacturing sector harder than most analysts thought. New orders placed by durable-goods manufacturers plunged in May, with a 10% decline in new demand for capital goods. The health of the factory sector, fueled by exports and capital spending, is critical to continued expansion at a time when consumer spending is slowing down.

SPENDING FOR GOODS LOOKS WEAK... So far this year, consumer demand has slowed sharply from its 1988 pace. In May, consumer spending increased a modest 0.3%, to an annual rate of \$3,438.9 billion. But prices advanced at twice that pace, so inflation-adjusted spending actually fell by 0.3%. As a result, real spending in the second quarter probably won't grow much faster than the 1.3% annual rate of increase in the first quarter. That's about one-third the 3.7% growth rate posted for all of 1988.

The slowdown is concentrated in the goods sector. Real spending on durable goods fell 1.6% in May. A 4.5% drop in new-car sales accounted for much of that, but

home-related products, such as furniture, appliances, and consumer electronics, also posted declines.

In the first five months of 1989, durable-goods purchases dropped at an annual rate of 6.3%. By contrast, they rose at an annual rate of 11.1% in the previous five months. Weak car sales in June will likely hold down durable-goods spending for that month as well. In the first 20 days of June, domestically made new cars sold at an annual rate of just 7 million, down a bit from the 7.2 million sales pace in May.

Sales of other hardgoods are hurting, too. Higher interest rates are cutting into sales of recreational vehicles and jewelry. And worries about the future are causing consumers to forgo buying such luxury items as pleasure aircraft and boats.

... BUT SERVICES REMAIN STRONG

Even purchases of nondurable goods, which usually are not financed or postponed, are slumping. After adjusting for inflation, softgoods sales fell 0.8% in May, following a 1.1% decline in April. The weakness is apparent in many consumer staples, including food, gasoline, and clothing. Not surprisingly, prices on these same items are increasing rapidly. Resistance to those markups may be leading consumers to shun softgoods purchases when they can.

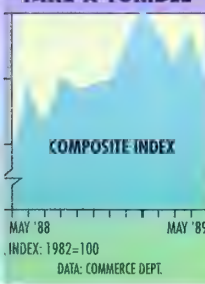
The weakness in goods purchases has helped to slow import growth so far this year. It also has loosened up production capacity in some industries, relieving price pressures. But sluggish demand will heighten the risks of a slowdown in the manufacturing sector.

That clearly isn't a problem on the service side of the economy. Consumer purchases of services, about half of all consumer spending, remain robust, even as goods spending has slipped (chart). Outlays for services increased 0.6% in May, after price changes. So far this year, real service spending has grown at an annual rate of 4.8%—a faster pace than the 3.9% clip for the entire year of 1988.

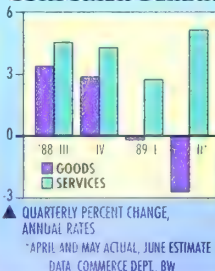
The gains in service spending have been broad. Education, medical care, and personal-service purchases have all increased at healthy rates this year. But with consumer demand so strong, inflation in the service sector will remain a problem.

A slowdown in income growth would probably cut into

LEADING INDICATORS TAKE A TUMBLE



THE BIG SHIFT IN CONSUMER DEMAND



Business Outlook

demand for services—but right now, that isn't happening. Personal income rose 0.3% in May, to an annual rate of \$4,389.7 billion. That's a modest gain, but income is still a hefty 9.2% above its year-ago level.

Earnings after taxes and price changes also are doing well. In May, real disposable income advanced by an even stronger 0.8%, partly reflecting a rebound from the record-high tax payments in April. But even so, real aftertax pay has risen at a 3.1% annual rate so far this year, about the same as the 3.2% gain for all of 1988.

Slower job growth in May and a shorter workweek did hold down wage and salary growth. Those earnings rose 0.2%, with manufacturing salaries unchanged for the month. Still, a 1.2% jump in interest income offset some of the slack in wages and salaries.

With incomes growing but spending stagnating, personal savings have risen steadily. Savings as a percentage of disposable income in 1989 are on track to average more than 5%—the highest annual rate since 1984.

The shift toward more savings will benefit the economy in two ways. A larger pool of funds for investment generally leads to lower interest rates. That could induce more capital spending here at home. Declining interest rates would also lower the exchange rate of the U.S. dollar. That would help keep exports rising.

FACTORIES ARE STILL HUMMING —FOR NOW

Indeed, domestic capital spending and exports have been the two big forces keeping the industrial sector relatively healthy while the consumer sector slowed. Now, the critical thing to watch for is the extent to which that slowdown hits U.S. industry, especially manufacturing.

The latest word from the durable-goods sector isn't welcome news. New orders for durable goods fell 4.2% in May, to \$124 billion, the steepest decline in 10 months. More than half of the drop was in orders for aircraft, which carry big price tags and, thus, are volatile. But demand was sluggish in other industries, too. Excluding

transportation equipment, new orders fell 2.1% in May with electrical and nonelectrical machinery and primary metals all posting big declines.

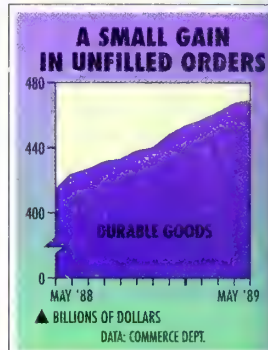
Nondefense capital-goods orders—an indicator of future equipment spending—dropped 8.3% in May. Again much of the May decline was in the booming aircraft industry, where orders are likely to rebound. But capital-goods orders have gone nowhere since last December. This may be a sign that businesses both here and abroad are scaling back their capital-spending plans.

In particular, the National Machine Tool Builders' Assn. reported a sharp drop in May orders for machine tools, also a leading indicator of equipment spending. Industry orders have been declining since last fall, but the May drop was especially worrisome because export orders fell sharply, a sign that the stronger dollar may be hurting foreign demand.

For now, hardgoods producers have enough work on their books to keep factories humming through the next quarter. So far this year, new orders are 5.6% above their 1988 average. And unfilled orders for durable goods remain high.

But signs of weakening are cropping up. In May unfilled bookings increased a slim 0.1%, to \$467.6 billion (chart). That was the smallest gain in a year, and all of it was concentrated in the transportation sector. Excluding that industry, unfilled orders fell 0.6%.

As this backlog gets filled, manufacturers will increasingly look for consumers to start spending again. Without renewed consumer demand, production schedules will be cut, and job growth will languish. That would make the line between slowdown and recession thinner than ever.



THE WEEK AHEAD

NAPM SURVEY

Monday, July 3

The National Association of Purchasing Management will probably report little change in its June index of business activity from May's level of 49.7%. But this means that for two consecutive months, the NAPM index would fall below the 50% mark that indicates the industrial sector is slipping into recession. The NAPM surveys its members for the latest readings on jobs, production, inventories, prices, delivery times, and orders.

CONSTRUCTION SPENDING

Monday, July 3, 10 a.m.

Spending on building projects most likely fell by about 0.5% in May. That's sug-

gested by the drop in housing starts and the downward trend in new building contracts so far this year. In April, construction activity rose by a slim 0.1%, led by a sharp gain in public works.

CAR SALES

Wednesday, July 5, 4:15 p.m.

New domestically made cars probably sold at an annual rate of 7 million in June, as car sales remain a drag on overall consumer spending. In May, new cars sold at a 7.2 million annual rate.

EMPLOYMENT

Friday, July 7, 8:30 a.m.

Most economists expect that nonfarm payrolls increased by about 230,000 new jobs in June, following a small 101,000

gain in May. The projected June increase indicates that businesses created an average of just 179,000 new jobs per month in the second quarter, down from the 253,000 pace of the first quarter. Slower job creation would confirm the continued downward shift in the economy. Economists are also looking for little change in June's unemployment rate from the 5.2% posted in May.

INSTALLMENT CREDIT

Friday, July 7

Installment credit probably grew by about \$3.5 billion in May. That's suggested by the May gain in new-car sales and increases in other retail sales and in personal bank loans. In April, consumer debt rose by \$2.7 billion.

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ADVANTAGE, LORENZO

HIS CHAPTER 11 STRATEGY APPEARS TO BE PREVAILING OVER EASTERN'S UNIONS

At ease in his Houston office, Texas Air Chairman Frank Lorenzo reflects on the war that still rages back in a New York bankruptcy court. His enemy: the unions of Texas Air Corp.'s Eastern Air Lines Inc. unit. Lorenzo's is a weary smile, but it's a smile nonetheless. For more and more, he seems to be winning. "Three months ago, there was a lot of talk about using

Eastern as a symbol of union power," he says. "It was the last place they should have made Custer's last stand."

Now, even the pilots and machinists fear Lorenzo is closing in. In the heady early days of the strike, Bankruptcy Judge Burton R. Lifland gave labor hope by pronouncing his intention of getting Eastern back in the air fast. But

then former Baseball Commissioner Peter V. Ueberroth's bid to buy Eastern fell apart. And ever since, despite a titanic effort, labor has failed to pry the airline away from Lorenzo (table). Worse for the unions, Lorenzo's plan to shrink Eastern to an airline two-thirds its old size is winning approval from a key group—Eastern's creditors.

Where did the unions' momentum go?

EASTERN'S TURBULENT BANKRUPTCY

FEB. 2 After almost a year of talks between Eastern and its machinists, mediators declare a 30-day countdown to a strike or settlement

MAR. 4 Machinists, backed by the pilots' union, go on strike. The airline is almost totally grounded

MAR. 9 Eastern files for Chapter 11 in New York

APR. 6 Former Baseball Commissioner Peter Ueberroth agrees to buy Eastern for \$464 million

APR. 12 The Ueberroth deal falls through when Texas Air Chairman Frank A. Lorenzo refuses to

submit to a union demand that a trustee run the airline until Ueberroth's purchase is completed

LATE APRIL Various groups, including the Pritzkers and Joseph Ritchie, a Chicago commodities trader, express interest in buying Eastern

JUNE 5 Court-appointed examiner David Shapiro concludes that the union-backed Ritchie bid for Eastern is untenable

JULY 2 Eastern's target date for restoring partial service with 226 flights

DATA: EASTERN AIR LINES INC., COURT DOCUMENTS



LORENZO: THE UNIONS "DIDN'T COME UP WITH VIABLE PLANS"

they lost much of it the moment Lorenzo fled with Eastern to the protection of Chapter 11. There, the tedious mechanics of bankruptcy law are designed explicitly to give management, not workers or other constituents, first crack at reorganizing the company so it can pay off its debts. If the company seems capable of producing cash for creditors under a reasonable plan of action, the court almost inevitably sides with management. "There comes a point in a bankruptcy when the pieces come together, the train starts to leave the station, and you're on board or you're not," says a creditor's attorney. "And if you're in the way, they'll run you over." Frank Lorenzo already has flown one airline, Texas Air's Continental unit, successfully through bankruptcy, and he's an expert crisis manager. His favorite tactic? Never-give-an-inch stubbornness. At a turning point, the unions believe, when Lorenzo showed complete obstinacy in refusing to accept a trustee-run Eastern until Ueberroth closed his proposed deal. That, they say, succeeded in intimidating Judge Lifland and David Shapiro, the examiner appointed by the court to guide negotiations. Lifland declined to be interviewed. Shapiro did not return calls.

MOVABLE OBJECT. Now, union sources say, Lifland and Shapiro are aiming to end the Eastern reorganization plan by trying to force the striking Eastern pilots back to work. The airline asked Lifland on June 21 to let it terminate its contract with the pilots and cancel vacations, suspend pension benefits for 18 months, and impose temporary pay cuts for one year. It's unclear whether Lifland will grant Eastern's request. But Eastern's move has brought the pilots to negotiations under Shapiro's supervision. Eastern pilots' union leader Jack Davis still calls the situation "a stand-off," since so few pilots have crossed the picket line since the strike. But, he concedes, "the deck, in terms of the bankruptcy court process, is stacked against us."

To Lorenzo, Lifland and Shapiro have properly recognized that his plans are better than the unions' buyout proposals. The unions figured they could force us to let them take control," he says. "But they didn't come up with viable plans." The only union buyout scheme that stood a chance was the deal backed by Joseph Ritchie, a Chicago commodities trader. Joel Zweibel, the attorney for Eastern's creditors, says they found Ritchie's plan "interesting and constructive." But it faces an immovable object—Lorenzo, who won't sell. Says Zweibel, "A third party that wants Eastern has to have Texas Air's consent, or they will have a bitter confrontation." The unions still have options. Ritchie,

EASTERN STRIKERS SIT AND WATCH THEIR HOPES FADE



MECHANIC PERRY PINSKE IS WORKING IN HIS FATHER'S CARPENTRY SHOP

On a recent Sunday, the machinists' union hall across from the Miami headquarters of Eastern Air Lines Inc. was packed, as members picked up weekly strike checks of \$100 and bags of donated groceries. Holding his twin 17-month-old daughters, Eastern machinist Kerry McQuistian spoke of friends who had left Miami to hunt for jobs at such places as Boeing Co. So many have gone, says McQuistian, that "when we go back to work—if we go back—they're not going to have to lay any of us off."

The idea that they may never go back to Eastern is creeping into the conversations of more and more strikers these days. Says one machinist, with 21 years of experience: "You can't go on with friendship and love. You have to eat." Many Eastern pilots, who receive \$600 a week in strike benefits, are applying to other airlines, even though in new jobs they lose their seniority. Flight attendants, who have no strike fund, are waiting tables, tending bars, and sounding out other carriers for work.

FADING HOPES. Even those who do find jobs that utilize their skills have trouble maintaining their living standards. In a service-oriented economy such as south Florida's, it would be tough for many of Eastern's machinists to find full-time jobs that come close to matching their former wages. Prospective employers usually want them to resign from Eastern, a move many are unwilling to make just yet. Faced with getting a job at less than half the \$18 an

hour he once made, McQuistian opted to stay at home to care for his three children while his wife, a registered nurse, went back to work full-time.

Perry Pinske, 29, an Eastern machinist since 1978, works in his father's carpentry shop while waiting out the strike. His father, an Eastern maintenance supervisor for 25 years, was laid off last year. Like many, the younger Pinske feels his days were numbered at Eastern, with or without the strike, because of Frank Lorenzo's moves to shrink the carrier.

Although hopes are fading that a buyer will appear, many strikers publicly swear they will never again work for Lorenzo. "I never deluded myself into thinking we would own the airline," says Bob Smith, a four-year Eastern pilot. "But I felt it had to be brought to the attention of the American public that raiders can't use employees to finance their deals."

Privately, many strikers say some union members could have a change of heart in mid-July. That's when Eastern submits its reorganization plan. If it's approved, and the bankruptcy court leaves the airline in Lorenzo's hands, "You're going to see a lot of people cross that picket line," says one machinist, who vows he won't go back.

Few of the rank and file criticize the decision to strike. But for many, as the strike wears on, the union slogan "one day longer" is proving to be one day too long.

By Gail DeGeorge and Antonio Fins in Miami

who has won some remarkable concessions from the unions, continues to put together proposals to tempt Lorenzo. Labor also clings to a slender hope of government intervention. A House subcommittee will hold hearings on the national implications of Lorenzo's plan. And there remains some chance that the court may yet conclude that Texas Air unfairly extracted assets from Eastern and appoint a trustee to run the bankrupt airline.

But the momentum that's building behind Lorenzo seems to have diverted the court's attention from the question of whether to appoint a trustee. Much of that momentum stems from the slow but steady steps Eastern has taken to reorganize. By July 2, Eastern says it will offer 226 daily flights, up from 79 now, and by August it plans to schedule 391 flights. Eastern claims it can rebuild operations without pilots crossing the picket lines, the fruit of a massive hiring and training effort. More than 500 pilots are currently in training, and 140 have already completed the program.

By December, Eastern's plan calls for operating 157 aircraft with 1,700 pilots and 800 daily flights serving 77 cities, with Atlanta as the major hub, down from 1,000 flights before the strike. Eastern says it will sell enough assets to raise \$1.8 billion, with creditors getting \$914 million of the proceeds. Of the balance, Lorenzo will use \$700 million to pay for the operations and marketing he'll need to kick-start the airline.

PILOT SHORTAGE. How did Lorenzo win over the creditors? His plan seems the least risky. Those who had been pushing for liquidation have been mollified by assurances of eventual full repayment. And Eastern is working to bolster unsecured bondholders' positions by scraping together \$244 million in collateral to back the Eastern paper they hold.

That should be enough to get Eastern out of bankruptcy. And while running a profitable operation will be tough, given the scarcity of pilots and intense rivalry from Delta, American, and Braniff, Wall Street seems unperturbed by such dangers. Says Raymond E. Neidl, an airline bond analyst with Dillon, Read & Co.: "If the plan fails, the creditors can always ask for full liquidation."

As the court, creditors, and management craft Eastern's future, the only certainty is that a shrunken airline means far fewer jobs for the 30,000 employees who worked for Eastern pre-strike (page 25). Observes one striking machinist: "We're stuck in the middle—pawns in a chess game." To labor's dismay, it's still Lorenzo's move.

By Gail DeGeorge in Miami and Seth Payne in Washington, with Mark Ivey in Houston

Commentary/by Vicky Cahan

TO STOP SPILLS, PUNISHMENT MUST COST MORE THAN PREVENTION

First came the Big Spill. But no sooner had Americans gotten over their dismay at the Exxon Valdez oil disaster of March than a series of similar mishaps fouled other waterways. During the last weekend in June, a barge collision in the Galveston Bay ship channel and separate oil tanker accidents off Delaware and Rhode Island sent waves of oil flooding into U.S. waters. With mop-up operations under way, the accidents raise an economic issue with major implications for

more than the coat on your back, but the Interior Dept. values it as a pelt alone," says Robert W. Adler, senior attorney for the Natural Resources Defense Council.

COOKBOOK. A computer model that the agency uses to assess smaller spills illustrates the issue: It simply puts price tags on various fish and birds. Agency number crunchers in 1986 pegged the North Atlantic striped bass at \$2.26 a pound and Washington State salmon at \$1.81 a pound. Some Canada

geese are worth \$35.74 each. Birds that people just watch or photograph come in at about \$7.88 a carcass. The money goes for site restoration or acquisition.

Interior insists it won't use the cookbook computer model for spills such as the Exxon Valdez, the worst in U.S. history, but evaluate the specific damage done to the environment. An inter-agency group is at work now. "We'll be determining



OFF RHODE ISLAND: YOU CAN PUT A PRICE TAG ON A STRIPED BASS—BUT WHAT ABOUT AN ENTIRE ECOSYSTEM?

the oil industry: How do you measure the damage from spills?

Adding up the cleanup costs will be relatively easy. Just count the hours worked and equipment rented. But it's far more difficult to figure out the value of lost beach vacations, a flock of Canada geese, and the threatened habitats of egrets.

Under the 1980 Superfund law, the Interior Dept. must do just that—and bill the polluters. The agency is operating in largely uncharted waters, however. It issued rules in 1986 and 1987 and immediately came under legal challenge. Environmentalists and 10 states filed suit, claiming that the "natural resource damage assessment" rules would vastly understate the amounts companies should fork over. The U.S. Court of Appeals in Washington heard the case in February, and a decision could come at any time.

Interior's critics have a point. They complain that the rules give undue weight to market and human-use factors—for example, the value of fishing licenses—and play down such larger questions as the harm done to an entire ecosystem. "A seal is worth a lot

how much the resources up there have been diminished," says an aide to Interior Secretary Manuel Lujan Jr.

But some members of Congress are worried that Exxon may get off easy. They want the Justice Dept. to take the company to court, where a jury could place a higher value on wildlife and ecosystems. "It's not a question of simply seeking vengeance," says Representative Robert G. Torricelli (D-N.J.). "If the government is prepared to protect these habitats, then every oil company executive would see the value of investing in technology and training to prevent this kind of damage."

Oil-spill damage payments will be a deterrent only if Interior has a broad vision of the liability. Industry will vigorously oppose such an approach. American Petroleum Institute attorney Catherine M. Eschelmann criticizes such damage-assessment techniques as "much too speculative and untested."

But the same was said about cost-benefit analyses for work-safety regulations. They're now commonplace. If Interior is serious about stopping spills, tallying all the costs of the damage would be a good place to start.

A RIGHT TURN, BUT NO FREE RIDE FOR BUSINESS

The court's conservatism isn't necessarily in corporations' interest

Representative Ron Marlenee, a conservative Republican from Eastern Montana's flatlands, thinks the U.S. Supreme Court has gone wildly astray. Along with most of his conservative colleagues, he's particularly upset that the justices overturned state laws against flag-burning. Such a reaction from the right is hardly surprising. What's unexpected is that the court has come under fire from a group that figured to benefit mightily from a new conservative majority—business.

As promised when Reagan appointee Anthony M. Kennedy established the new majority, the court is reading the Constitution very narrowly. But the right-of-center justices are so reluctant to overturn state laws or narrow those that Congress meant to be broad.

BAIL-OUT. Those concerns showed clearly in a pair of cases that business is most unhappy about: The court's refusal to declare huge punitive damage awards unconstitutional or to scale back the racketeering law that has hobbled many businesses. Says Bruce Fein, a conservative legal expert: "The court will no longer bail out the losers in the legislative process. Business will have to win in the legislature or pay the consequences."

In many ways, the court eased conservatives during the term, which was scheduled to end on June 30. In civil rights, the justices boldly closed a 35-year era in which the courts gave civil-rights plaintiffs an edge. And the court was emphatic in the law-and-order department, upholding the right of states to execute even teenage and retarded criminals. Business groups expecting consistent laissez-faire approach were disappointed. Two of the most important rulings of the term—those on the issues of punitive damages and the racketeering law (table)—were strong

rebukes to business. "What we're seeing is a different kind of conservatism than business expects," says Stephen M. Shapiro, a Deputy Solicitor General under Reagan. "It's not pro-business and it's not based on free-market principles."

A literal reading of the Constitution figured prominently in the punitive-damages case. The court ruled 7-2 that the Eighth Amendment, which protects convicted criminals from excessive fines, does not apply to businesses saddled with multimillion-dollar punitive-damage verdicts in civil suits.

In practical terms, the decision means that Browning-Ferris Industries Inc. must pay \$6 million to Kelco Disposal Inc., a small Burlington (Vt.) trash-hauling company that won an antitrust suit against BFI. The high court reasoned that even though Kelco's \$6 million award was 117 times larger than the \$51,000 in actual damages, the absence of any government interest prevented the court from interfering in the business-to-business dispute.

WEAPON OF CHOICE. The court again took a narrow view of its judicial role in the closely watched case involving the 1970 Racketeer-Influenced & Corrupt Organizations Act. It unanimously ruled that Congress, while originally aiming at organized crime, did not limit the law's scope to such cases. The court also made it easy to meet the law's requirement that a pattern of criminal conduct be shown to justify a RICO suit. That means that RICO will continue to be the weapon

of choice in a wide variety of fraud cases. Now that the court has issued its ruling, securities firms, banks, and insurance companies have identified RICO revision as their prime legislative target.

Despite the antibusiness tone, both rulings have silver linings. Five justices invited business to return to the punitive-damages issue, this time to contest whether the lack of state guidelines and explicit instructions to juries on how to make the punishment fit the crime violates the Constitution's due-process clause. And four justices said they think RICO is unconstitutional vague. "The Justice Dept. must be extremely nervous," says Andrew L. Frey, a former Justice official. Among others, lawyers for Drexel Burnham Lambert Inc.'s former junk-bond chief Michael R. Milken, who faces RICO charges, are likely to press a constitutional challenge to the law.

For the most part, big business cheered when Ronald Reagan pushed the court to the right. But now it's clear that judicial conservatism won't deliver all the legal relief business wants. The justices' distrust of judicial activism means they'll defer to lawmakers—and uphold laws that can make life a trial in the executive suite.

By Paula Dwyer in Washington



A SAMPLER OF KEY SUPREME COURT RULINGS

PUNITIVE DAMAGES In a major setback for business, the high court ruled 7-2 that civil jury-imposed punitive damages, even those far in excess of actual damages, do not violate the Eighth Amendment's prohibition against excessive fines

Browning-Ferris Industries vs. Kelco Disposal

RACKETEERING The court turned aside business pleas to restrict the 1970 Racketeer-Influenced & Corrupt Organizations Act only to organized crime cases. Instead, it ruled unanimously that Congress meant it to be used in a broad range of commercial fraud cases, including securities, insurance, and accounting fraud

H.J. Inc. vs. Northwestern Bell Telephone Co.

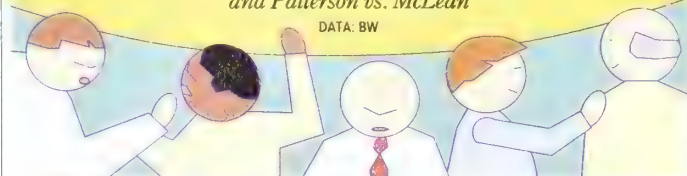
ANTITRUST DAMAGES In a major victory for consumer groups, the court ruled unanimously that states may allow consumers to sue manufacturers for triple damages in antitrust cases, even if the customer did not purchase directly from the manufacturer. Such indirect purchasers are allowed to sue in 15 states, raising the possibility that manufacturers will have to pay six times actual damages to compensate wholesale as well as retail customers

California vs. ARC America Corp.

AFFIRMATIVE ACTION In a series of cases that seemed to undermine affirmative action programs, the court made it tougher for workers to use statistics to win discrimination cases, tossed out minority set-aside programs, made it easier for white males to bring reverse discrimination suits, and disallowed the use of an 1861 civil rights law in racial harassment cases

Wards Cove vs. Atonio, Richmond vs. Croson, Martin vs. Wilks, and Patterson vs. McLean

DATA: BW



THE PRIME BUYOUT IS TOUGH TO COMPUTE

Why is Whitney paying top dollar for the ailing computermaker?

Imagine. The company you're buying faces roller-coaster earnings, bloody competition, an industrywide slump, and fading interest in its key product line. Add to that a demoralized work force, edgy customers, and a debt-to-equity ratio of around 3 to 1. Think you can turn this outfit around?

That's the challenge New York-based venture capital firm J. H. Whitney & Co. is taking on with its June 23 bid for Prime Computer Inc. Whitney values its cash-and-paper offer at \$21.50 a share, or \$1.35 billion, although Wall Street pegs it closer to \$20 a share.

Whitney's leveraged buyout may be rescuing the \$1.6 billion minicomputer company from raider MAI/Basic Four Inc. But even if its bruising nine-month battle with MAI is truly over—MAI can still make a counteroffer—Prime's future is uncertain. Dean Witter Reynolds Inc. analyst Jay P. Stevens calculates that by taking on \$1 billion in new acquisition debt, Prime will wipe out its earnings for the next couple of years. But Whitney partner Peter M. Castleman says the company's cash flow will be double interest payments. He says Prime's acquisition of Computervision Corp. in early 1988 and its battle with MAI distort the company's true financial position.

Many outsiders are less sanguine. Says John Cunningham, former president of Wang Laboratories Inc. and now a consultant: "Priced at \$13 to \$15 a share the deal might have worked, but at \$20 there is tremendous risk."

HEALTHY CLIP. So what's the attraction? Prime's mature minicomputer business generates a lot of cash, and its computer-aided design and manufacturing (CAD/CAM) business is poised for growth, says Russell E. Planitzer, a Prime alumnus and partner at Whitney who may become Prime's next chairman. Planitzer says he expects to concentrate primarily on serving Prime's existing minicomputer customers, while dropping efforts to win new business. That would allow substantial cuts in Prime's sales and marketing costs, he says. "Flat-to-declining business will free up capital," he adds.

Those resources will be targeted instead at Prime's more promising CAD/CAM business. That operation accounts for half of Prime's revenues and a some-

what smaller share of its profits, making it the second-largest supplier in the industry after IBM. Sales of the systems, which are used by design engineers, continue to grow at a healthy 10%-to-15% annual clip, though competition is shrinking margins.

But along with those sales, Prime will need a lot of luck to handle its new debt,

WILL PRIME'S CHOPPY EARNINGS SUPPORT ITS BIG DEBT?



added to \$560 million in long-term borrowings already on the books. First, it has to win back its customers, many of whom fled or delayed purchases during the long bout with MAI. In 1988, sales of Prime's proprietary minicomputers fell 12%, to \$324 million. Analyst Barry F. Willman at Sanford C. Bernstein & Co. estimates that sales of Prime minicomputers will fall an additional 30% this

year. The company attributes its \$5 million loss in the first quarter of this year to the drop in orders.

Innovation and stable finances are key to winning back those customers. While Planitzer insists Prime will fund the research and development required to stay on the leading edge, a slip in earnings (chart) could force Prime to cut back research to meet interest payments.

The growing trend toward hardware that runs software based on the Unix operating system also spells trouble for Prime. Its effort to develop such gear probably won't survive the takeover. "It is too late to spend a lot of money on Unix and make a difference," says Planitzer. Instead, he says, Prime will use its worldwide sales and distribution organization to sell Unix workstation products built by others. He cites Prime's recent agreement to sell the Unix-based products of Sequent Computer Systems Inc.

COATTAIL RIDE. Prime's CAD/CAM business also faces a problematic future. Computervision, which Prime acquired for \$435 million, had already moved early to bundle its software with computers compatible with Sun Microsystems Inc. products. That enabled it to ride on the coattails of Sun's popularity. Increasingly, however, customers are likely to go straight to Sun and other Unix vendors for their hardware, buying only the software from Prime, says Mathew A. Sickling, product manager at McDonnell Douglas Manufacturing & Engineering Systems Co., a Prime competitor.

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By Leslie Helm in Boston

TELECOMMUNICATIONS

A SANCTIONS SCARE FINALLY MAKES THE JAPANESE JUMP

Motorola's cellular phone deal is a first under the 1988 Trade Act

A nasty dispute between Washington and Tokyo over access to Japan's cellular telephone market may finally have given U.S. trade negotiators a winning formula: List specific demands and a wide variety of products to be hit with retaliatory sanctions. Set a deadline for compliance. Then push for an answer.

The pugnacious strategy paid off on

June 28, when Motorola Inc., the sole complainant in a two-year battle to crack the Japanese cellular market, got just what it wanted. The Japanese Ministry of Posts & Telecommunications (MPT) reversed itself and offered Motorola's Japanese subsidiary 5 megahertz worth of Tokyo's radio frequency spectrum to work with its new 10.7-ounce Micro TAC telephones. Within two years, Chicago

ased Motorola aims to build a system at will provide its Japanese affiliate, ippon Motorola Ltd., with hundreds of millions of dollars in revenues from cellular telephones and two-way radios. Motorola was also relieved of the burden of signing up customers before even applying for licenses, a requirement that one of its Japanese competitors faced. In addition, the MPT agreed to make its cane licensing procedures more understandable and predictable to foreigners. The deal, reached just two weeks before the July 10 deadline set for imposing sanctions, is the first significant pact under the 1988 Trade Act. A provision of the law, Section 1377, was drafted for the express purpose of forcing Japan to tie up to its 1986 telecommunications agreements with the U.S. If the U.S. Trade Representative found that Tokyo wasn't acting in good faith, then the trade rep could levy sanctions.

'PRETTY PLEASED.' The MPT resisted making concessions during talks in Washington that might have headed off its designation last April as an unfair trader. But once Japan was named and sanctions were proposed, "there was a lot of stirring of the bureaucratic pot" in Tokyo, notes one congressional trade expert. Her alarmed Japanese Cabinet ministers pressured the MPT to reopen talks and reach an agreement lest Washington make good its threat to retaliate against Japanese televisions, computers, automobiles, industrial robots, telephones, photocopiers, medical instruments, and telecommunications services. Long-term, Motorola's win could benefit other suppliers. Numerous other U.S. companies, including General Electric and American Telephone & Telegraph Co., have been searching for easier access to the Japanese market for communications and electronics gear. That's not to say there still aren't obstacles ahead. Motorola is being given only 2 megahertz to start, with the additional bandwidth—which governs the number of calls that can be handled at any one time—to come once it has the customers to justify the additional allocation. Motorola fears the MPT could still use problems by failing to meet some technical requirements when it adds capacity. Still, the company is "pretty pleased" with the results of the talks, says Albert R. Brashear, vice-president of public relations.

So are other U.S. communications companies, which feared that targeting Japanese telecommunications services could produce an escalating trade war which the U.S. stood to lose the most. For now, White House trade negotiators are jubilant. There's nothing like a rousing game of hardball to raise the spirits. *By Paul Magnusson in Washington, with Neil Gross in Tokyo*

TAKEOVERS

DON TYSON WINS HOLLY FARMS, BUT HIS DEBTS AREN'T CHICKEN FEED

After paying top dollar to outbid ConAgra, he's \$1.4 billion in the hole

When Herman Tuck Jr. needed \$40,000 to open a barbecue restaurant in 1973, he turned to childhood buddy Don Tyson. The chief executive of poultry giant Tyson Foods Inc. made the loan, then helped build the business by holding most of his working lunches in Tuck's dilapidated wood-frame diner in Springdale, Ark. Last year, when Tuck thought about paving the parking lot, Tyson told him to forget

knight, began a bidding war. Now, Tyson must pay ConAgra \$50 million to renounce its option to buy Holly's poultry division and find a way to service \$1.4 billion in debt. Cracks Tyson: "It doesn't worry me except at night."

'FANTASTIC FIT.' Tyson was willing to pay top dollar because he desperately needs Holly's chickens. Rapid growth, fueled by Tyson's dominance of the fast-food breaded-chicken business, has strained production. Although the company, based in Springdale, has committed \$100 million to expanding output, the new facilities are two years away from coming on line.

Holly has other attractions for Tyson. More than 55% of Tyson's sales are to institutions and restaurants. But Tyson has almost no brand presence in grocery stores, while Holly is the national market leader, with a 19% share of brand-name fresh chicken sales. Says John McMillin, an industry analyst at Prudential-Bache Securities Inc.: "This is a fantastic fit."

But first, the combined company must grapple with all that debt. Its strong finances should help. In the past five years, Tyson's revenues have more than doubled, to \$1.9 billion from \$660 million. And profits leapt to \$81 million from \$18 million. The

companies' combined cash flow should be about \$320 million this year, but problems could arise if chicken prices fall. That's a possibility: The industry plans to add 10% more capacity in 1990.

Expansion has been a Tyson trademark. When Don, fresh out of college, took control of operations in 1952, he persuaded his father, John, to raise cornish game hens, a \$120 million market that the company came to dominate. Friends say the pair formed a near-per-



TYSON: DOMINANCE IN FAST FOOD—AND GROCERY STORES, TOO

it. Says Tuck: "He pointed out I'm packing people in, so why spend the money?"

Don't get the idea that Tyson is tight-fisted. On June 23, the poultry magnate agreed to pay \$70 a share, or \$1.29 billion, for Holly Farms Corp., ending an ugly eight-month fight with ConAgra Inc. for Holly and dominance of the \$11 billion U.S. chicken industry. Tyson's winning price was 35% higher than the tender offer he launched last October before ConAgra, acting as a white

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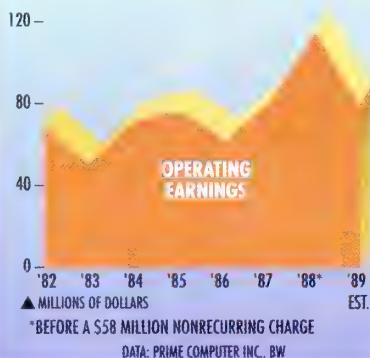
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A SANCTIONS SCARE FINALLY MAKES THE JAPANESE JUMP

Motorola's cellular phone deal is a first under the 1988 Trade Act

A nasty dispute between Washington and Tokyo over access to Japan's cellular telephone market may finally have given U.S. trade negotiators a winning formula: List specific demands and a wide variety of products to be hit with retaliatory sanctions. Set a deadline for compliance. Then push for an answer.

The pugnacious strategy paid off on

June 28, when Motorola Inc., the sole complainant in a two-year battle to crack the Japanese cellular market, got just what it wanted. The Japanese Ministry of Posts & Telecommunications (MPT) reversed itself and offered Motorola's Japanese subsidiary 5 megahertz worth of Tokyo's radio frequency spectrum to work with its new 10.7-ounce Micro TAC telephones. Within two years, Chicago-

ased Motorola aims to build a system that will provide its Japanese affiliate, Ippon Motorola Ltd., with hundreds of millions of dollars in revenues from cellular telephones and two-way radios.

Motorola was also relieved of the burden of signing up customers before even applying for licenses, a requirement that one of its Japanese competitors faced. In addition, the MPT agreed to make its creative licensing procedures more understandable and predictable to foreigners.

The deal, reached just two weeks before the July 10 deadline set for imposing sanctions, is the first significant pact under the 1988 Trade Act. A provision of the law, Section 1377, was drafted for the express purpose of forcing Japan to live up to its 1986 telecommunications agreements with the U.S. If the U.S. Trade Representative found that Tokyo wasn't acting in good faith, then the trade rep could levy sanctions.

'PRETTY PLEASED.' The MPT resisted making concessions during talks in Washington that might have headed off its designation last April as an unfair trader. But once Japan was named and sanctions were proposed, "there was a lot of stirring of the bureaucratic pot" in Tokyo, notes one congressional trade expert. Other alarmed Japanese Cabinet ministries pressured the MPT to reopen talks and reach an agreement lest Washington make good its threat to retaliate against Japanese televisions, computers, automobiles, industrial robots, telephones, photocopiers, medical instruments, and telecommunications services.

Long-term, Motorola's win could benefit other suppliers. Numerous other U.S. companies, including General Electric Co. and American Telephone & Telegraph Co., have been searching for easier access to the Japanese market for communications and electronics gear.

That's not to say there still aren't obstacles ahead. Motorola is being given only 2 megahertz to start, with the additional bandwidth—which governs the number of calls that can be handled at any one time—to come once it has the customers to justify the additional allocation. Motorola fears the MPT could still cause problems by failing to meet some technical requirements when it adds capacity. Still, the company is "pretty pleased" with the results of the talks, says Albert R. Brashear, vice-president for public relations.

So are other U.S. communications companies, which feared that targeting Japanese telecommunications services would produce an escalating trade war in which the U.S. stood to lose the most. For now, White House trade negotiators are jubilant. There's nothing like a rousing game of hardball to raise the spirits.

By Paul Magnusson in Washington, with Neil Gross in Tokyo

TAKEOVERS

DON TYSON WINS HOLLY FARMS, BUT HIS DEBTS AREN'T CHICKEN FEED

After paying top dollar to outbid ConAgra, he's \$1.4 billion in the hole

When Herman Tuck Jr. needed \$40,000 to open a barbecue restaurant in 1973, he turned to childhood buddy Don Tyson. The chief executive of poultry giant Tyson Foods Inc. made the loan, then helped build the business by holding most of his working lunches in Tuck's dilapidated wood-frame diner in Springdale, Ark. Last year, when Tuck thought about paying the parking lot, Tyson told him to forget

knight, began a bidding war. Now, Tyson must pay ConAgra \$50 million to renounce its option to buy Holly's poultry division and find a way to service \$1.4 billion in debt. Cracks Tyson: "It doesn't worry me except at night."

'FANTASTIC FIT.' Tyson was willing to pay top dollar because he desperately needs Holly's chickens. Rapid growth, fueled by Tyson's dominance of the fast-food breaded-chicken business, has

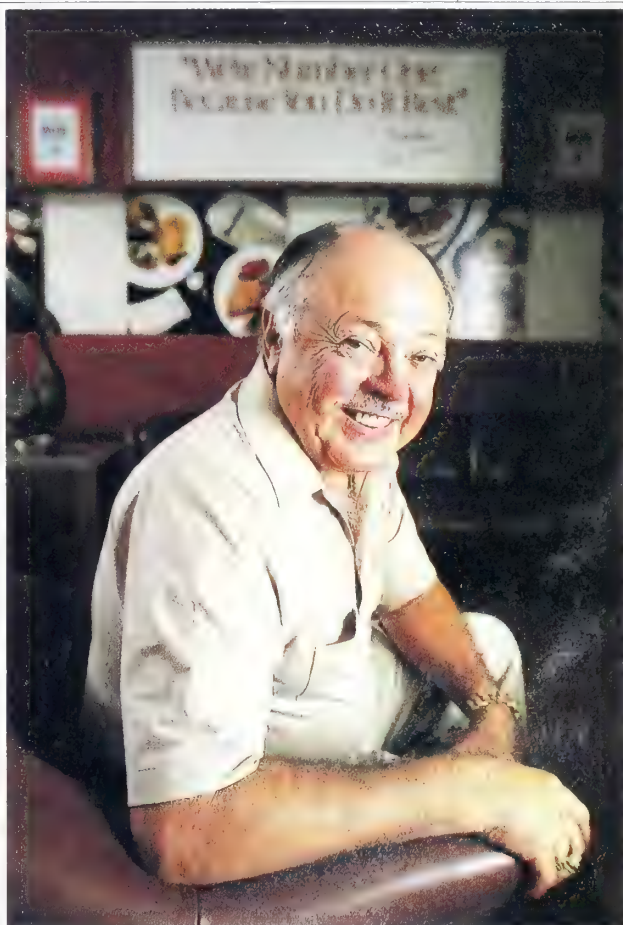
strained production. Although the company, based in Springdale, has committed \$100 million to expanding output, the new facilities are two years away from coming on line.

Holly has other attractions for Tyson. More than 55% of Tyson's sales are to institutions and restaurants. But Tyson has almost no brand presence in grocery stores, while Holly is the national market leader, with a 19% share of brand-name fresh chicken sales. Says John McMillin, an industry analyst at Prudential-Bache Securities Inc.: "This is a fantastic fit."

But first, the combined company must grapple with all that debt. Its strong finances should help. In the past five years, Tyson's revenues have more than doubled, to \$1.9 billion from \$660 million. And profits leapt to \$81 million from \$18 million. The

companies' combined cash flow should be about \$320 million this year, but problems could arise if chicken prices fall. That's a possibility: The industry plans to add 10% more capacity in 1990.

Expansion has been a Tyson trademark. When Don, fresh out of college, took control of operations in 1952, he persuaded his father, John, to raise cornish game hens, a \$120 million market that the company came to dominate. Friends say the pair formed a near-per-



TYSON: DOMINANCE IN FAST FOOD—AND GROCERY STORES, TOO

it. Says Tuck: "He pointed out I'm packing people in, so why spend the money?"

Don't get the idea that Tyson is tight-fisted. On June 23, the poultry magnate agreed to pay \$70 a share, or \$1.29 billion, for Holly Farms Corp., ending an ugly eight-month fight with ConAgra Inc. for Holly and dominance of the \$11 billion U.S. chicken industry. Tyson's winning price was 35% higher than the tender offer he launched last October before ConAgra, acting as a white

fect team, the younger Tyson pushing for change, the elder, who started the business in 1936, preaching caution. Says Donald Wray, senior vice-president for marketing: "Don was so enthusiastic, he probably would have bankrupted the company if it hadn't been for his father." Don took over the business in 1967, after his parents were killed in a car wreck.

Success hasn't spoiled Don Tyson. He still works in short-sleeved khaki shirts with "Don" stitched over the breast

pocket and hangs out with high school buddies at Roger Koetter's Pool Hall, a local watering hole.

Tyson's only hobby is deep-sea fishing. He travels to Chile, Africa, and Australia in search of world-record swordfish and marlin, which he releases once he reels them in. There's no business analogy here: If you're on Tyson's hook, he'll spare no expense to haul you aboard. Just ask Holly Farms.

By Kevin Kelly in Dallas, with Dean Foust in Atlanta

WALL STREET

WHAT'S MUNCHING AWAY AT GOLDEN VALLEY'S SUCCESS

A crowded microwave popcorn market and an SEC investigation

Once upon a time, Golden Valley Microwave Foods Inc. was just another hot little growth company. Its Act II microwave popcorn was a blockbuster. Sales grew, profits rolled in, and the stock kept popping.

Today, life's more complicated at the Edina (Minn.) foodmaker. The Securities & Exchange Commission is investigating charges that the company cooked its books to inflate earnings and that top executives used company money for personal expenses. Meantime, popcorn growth is skidding, while rivals munch at Golden Valley's market share. A patent on technology used in its popcorn bags is being contested in court. And Golden Valley's much-ballyhooed microwave french fry, a product the company is counting on for a surge of growth,

is at least a year behind schedule.

That's not all. The company's stock fell on news of the SEC probe. And almost 12% of the company's 11.5 million shares have been shorted by investors who are betting heavily that Golden Valley's stock is headed further south (charts). Chairman James D. Watkins on June 28 complained about rumors "so outrageous that they border on being libelous," and he noted that the company has asked the SEC to investigate short selling in the stock. Says Prudential-Bache Securities Inc. food analyst John M. McMillin: "It has become ugly."

Still, not everyone is down on Golden Valley. Bullish stock analysts continue to praise the company, insisting Golden Valley is being unfairly slammed by short sellers and misunderstood by just

about everyone else. "This is still a growth company," insists Ronald B. Morrow of Smith Barney, Harris Upham & Co. Others are more restrained. Rachel M. Scherer of Dain Bosworth Inc. says competition in microwave popcorn, which made up 90% of Golden Valley's net of \$16.8 million last year on \$141 million in sales, puts a lid on the stock.

Why such differences? Bulls say new manufacturing equipment coming on line this summer will improve productivity and boost margins. They believe the company's \$25 million investment last year in potato processor Lamb-Weston, a joint venture with ConAgra Inc., will pay off better than critics of the deal expected. And they put a lot of hope in the high-tech microwave fry the company is developing, which Piper, Jaffray & Hopwood Inc.'s Stephen M. Carnes insists has a huge potential market.

Carnes believes that the SEC investigation will turn out to be a lot of smoke. One laid-off employee, who was already interviewed by the SEC, told BUSINESS WEEK the company boosted earnings in last year's third quarter by booking revenue that shouldn't have been booked until the fourth quarter. But this ex-employee, who demanded anonymity, said the fourth quarter was adjusted, and 1988 results were posted truthfully.

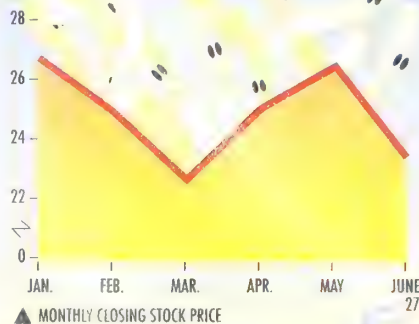
PRICE CUTS. This source also said that top executives at Golden Valley submitted bills for entertainment at their homes and for personal household goods. "I don't remember whether diapers were included, but they were household goods of that nature," the ex-employee said, but declined to say whether the company paid the bills. Golden Valley responds that Price Waterhouse reviews its books quarterly and has consistently awarded unqualified opinions. Watkins adds that "the company's sales are real and there has been no unauthorized expenditure or misappropriation."

The SEC probe may turn out to be the least of Golden Valley's problems. Two months ago, Frito-Lay Inc. introduced its Chester's microwave popcorn, forcing price cuts of 20%. Golden Valley may suffer in a war with deep-pocketed Frito-Lay, a unit of PepsiCo Inc.

The company needs new products to grow faster, but additions like pancakes and waffles have done little to help the bottom line. The microwave fry won't be sold widely until 1990 as the company works to get manufacturing costs low enough on its high-tech packaging to sell the fries at 69¢ for a four-ounce box. If Golden Valley doesn't succeed, the bears will be fat and happy.

By Russell Mitchell in Minneapolis

GOLDEN VALLEY'S STOCK HAS BEEN HIT... ...BY PRESSURE FROM SHORT SELLERS



DATA: BRIDGE INFORMATION SYSTEMS INC.



DATA: NEW YORK STOCK EXCHANGE



FORMER STAFFER SCHMIDTBERGER SAYS RECRUIT USA REJECTED NON-ASIANS FOR SOME JOBS

WHITE PEOPLE, BLACK PEOPLE' NOT WANTED HERE?

More Americans are charging their Japanese bosses with discrimination

Recruit Co. gained notoriety in the U.S. as the Japanese conglomerate whose influence-peddling led to the downfall of the Takeshita government. Now, it's in trouble in America. Four former employees have charged that a pair of Recruit's stateside subsidiaries, the employment agencies Recruit USA and Interplace/Transworld Recruit, used an elaborate system of racial and cultural discrimination in picking the employees it placed with Japanese and other clients. On June 22, the U.S. Equal Employment Opportunity Commission issued a federal court order to prevent Recruit's Japanese managers from destroying documents that, the agency promised in court papers, "will demonstrate a shocking pattern of race, sex, national origin, and age discrimination."

'EXTRAORDINARY.' At Interplace, court documents suggest the discrimination took the form of code words, such as "see Adam," when a client wanted a male employee, or "talk to Haruo," when a Japanese worker was sought. A code allegedly appeared on job orders to show clients' preferences.

All this first came to light early in 1987 when Recruit's former staffers told in an article to the *San Francisco Chronicle* that John Pemberton, head of the EEOC's

San Francisco office, read the headlines and began investigating. "It is extraordinary," says Pemberton. "We just had to do something." After interviewing the employees, the EEOC filed formal employment discrimination charges against the two Recruit units.

Recruit's subsidiaries filed court papers denying that they failed to hire anyone because of their sex or national origin. Yet however the case is resolved, it's just one of a growing number of complaints by Americans charging their Japanese bosses with discrimination.

In the most significant case, female secretaries at Sumitomo Corp. charged that they had lost promotions to male Japanese co-workers. In 1982, the U.S. Supreme Court rejected Sumitomo's claim that a treaty exempted its American subsidiary from U.S. employment laws and ordered a trial. In 1987, Sumi-

Court documents suggest that one company used code words: 'See Adam' meant a client sought a male employee

tomo settled for \$2.7 million and other concessions. Now, similar cases are pending against the U.S. offices of C. Itoh & Co., a trading company, and Nikko Securities Co. The companies are fighting the lawsuits.

Another big case involved Honda of America Mfg. Inc., which last year settled an EEOC investigation of racial and sexual discrimination at its Marysville (Ohio) plant. The settlement: \$6 million. And in March, former personnel manager Wouter Blom brought discrimination charges in California against NGK Spark Plugs (USA). Blom claims that he was hired to "Americanize" the Japanese subsidiary but was in fact expected to be a front man for a two-tier personnel system that rewarded Japanese executives with higher salaries and perks, such as discounts on Toyotas. A lawyer for NGK Spark Plugs denies the charges.

Paul Schmidtberger, a former Recruit USA researcher who turned over documents to the EEOC, says that after leaving Recruit he confronted the company with his complaints and met with its lawyers before going to the EEOC. He adds: "I gave them a chance to change themselves, and they never did." Recruit's lawyer, John R. Shiner, says he was "unaware" of any efforts by Schmidtberger to follow up on the meetings.

In court papers, Schmidtberger describes an incident with IBM Japan Ltd., a major client, which allegedly hired Recruit USA to conduct a U.S. recruitment campaign for IBM positions in Japan. Recruit's duties included prescreening applicants who responded to an IBM ad in a Japanese magazine. But the non-Asians who applied were told "the response to the advertisement was overwhelming," Schmidtberger says.

'SCAPEGOATS'? The company hid the real reason, he claims. His evidence? A memo submitted to the court that he says documents a meeting between IBM and Recruit officials. Written by Recruit, it states: "Foreigners, no good—IBM current rule... white people, black people—NO, but second generation Japanese or others of Asian descent O. K." IBM maintains that IBM Japan never instructed Recruit or any company to conduct a hiring program that discriminates against any race. IBM further says that it has no record of any memo.

Some corporate lawyers claim the Japanese are no worse than other foreign multinationals. Says Ronald M. Green, a lawyer who represents foreign corporations with U.S. operations: "The Japanese are the scapegoats." Perhaps. But Recruit and other Japanese employers are learning the hard way that when in the U.S., they must do business the American way.

By Michele Galen and Leah J. Nathans in New York



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FOR THE ORIOLES, LESS IS MORE —IT'S FIRST PLACE

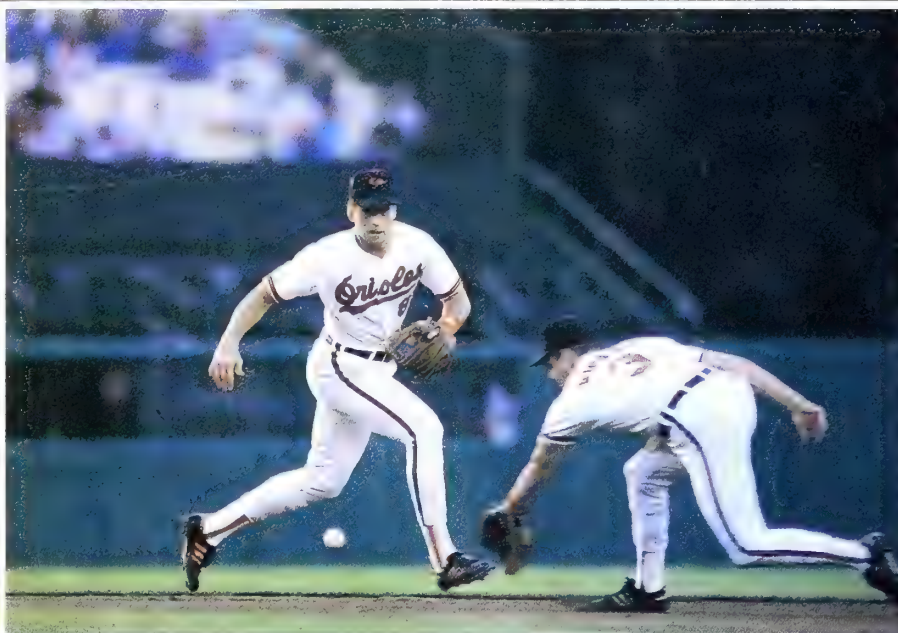
A new roster of low-budget players is filling seats and club coffers

By this time last year, frustrated Baltimore Orioles fans were already crumpling their beer cups and crying that familiar refrain: "Wait 'til next year." Their beloved Birds, three-time world champions, were wallowing in the cellar after beginning the season with a 21-game losing streak—the longest opening swan dive in baseball history.

Remarkably enough, Orioles fans had

late Edward Bennett Williams, had given newly installed President Lawrence Lucchino and General Manager Roland A. Hemond the green light to begin a ruthless roster pruning that put the team on a sounder financial footing and helped stop the Birds' slide.

By Opening Day, 1989, 18 players, including aging superstar Eddie Murray, had been traded or released. The purge trimmed the average salary on the 24-



BIRDS OF A FEATHER: BROTHERS CAL AND BILLY RIPKEN ANCHOR A REVITALIZED INFIELD

to wait only a year for salvation. A gutsy infusion of fresh-faced kids and cast-off vets has revitalized the team, and on June 28, the Birds had been perched atop the American League East for 33 days—and had a comfortable 6½-game lead. The turnaround vindicates the decision by the team's new owner, New York businessman and longtime baseball fan Eli S. Jacobs, to buy the hapless Orioles late last year for \$70 million, the highest price ever paid for an entire baseball franchise.

BENCH-CLEARING. The publicity-shy, 51-year-old investor built his fortune with cagey takeovers of such companies as Memorex International and Telex Corp. Purchasing the O's was equally shrewd. Even during the ghastly 1988 season, the Orioles were firmly in the black. And last year, the team's previous owner, the

man roster from about \$425,000 to \$234,000, making the Orioles the lowest-salaried team in the league. "They finally did the right thing in trading away veteran players who didn't want to play," says former Orioles General Manager Hank Peters, who now is president of the Cleveland Indians.

Even before the new season began, the moves created a sense of excitement. Season ticket sales jumped by 10%. The

The player purge slashed the team's average salary from \$425,000 to \$234,000, the lowest in the league

first day of single-ticket sales in January set a new one-day record. And as the Orioles' band of no-names keep slugging to victory, the turnstiles are clicking at the near-record pace of 27,922 times per game—or 2.15 million for the season. "The town really responded to the dismantling of the team," says Marty Conway, Oriole director of marketing. "They felt there was some progress."

The financial box score will look even better starting in 1992, when a 46,800-seat stadium is scheduled to open. The lease for the new facility will continue a unique partnership in which the team shares its profits with the state. With the new stadium's 70 luxury suites, which will sell for about \$60,000 a season, and its 5,000 premium \$20-per-game seats, more money will flow into everyone's pockets. The Maryland Stadium Authority projects that the lease will bring the state \$5 million a year. But if fans continue to flock to the games at this year's rate, says Authority Chairman Herbert J. Belgrad, "it will surpass any projections that we have."

New owner Jacobs, who retained Hemond and Lucchino, hoped to achieve a winning season by the time the stadium was completed. But that was not good enough for Orioles Manager Frank Robinson. "We were building for the future," he says. "But I said: 'What's wrong with trying to win now?'"

'OVERACHIEVERS'? The result has been the biggest baseball turnaround in decades—and a motley crew that once again provides thrills on the field. Catcher Mickey Tettleton, released by the Oakland Athletics for being too high-strung, is walloping enough home runs on his breakfast diet of Fruit Loops to make a bid for the league home-run crown. Reliever Gregg Olson, a fuzzy-cheeked rookie fresh from Auburn University, has a prodigious curveball that seems to dive straight toward China.

And at almost every position, the one-time Boys of Bummer are rediscovering the joys of fielding and pitching. "The players are trying to prove that they belong," says Robinson. "They may be trying a little extra." In this day of sulking superstars, they don't mind sharing playing time.

Hustle and sacrifice were bywords of the old Orioles. But will this glorious season's bright beginning last? The Indians' Peters is one of many skeptical baseball men. "Not to take anything away from the players, but right now they are probably what we call over-achievers," he says. That may be so. But while the remade Orioles continue their unlikely ascent, Baltimore fans have no reason to cry in their beer.

By John Carey in Washington



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EDITED BY HARRIS COLLINGWOOD

JUSTICE FIRES A NEW SALVO AT NORTHROP

► For Northrop, maker of the Stealth bomber, the problems just won't quit. While Congress presses for major cuts in the \$70 billion bomber program, the Justice Dept. has broadened its April indictment against the company. The original indictment charged Northrop with falsifying test results on key components of the Air Force's air-launched cruise missiles and with supplying 17 defective units to the Air Force. On June 27, Justice raised the number of defective units to 200.

Assistant U. S. Attorney William Fahey says that the ongoing investigation into the Air Force's cruise missile fleet, numbering 1,700, could turn up even more problems. Northrop contends that the charges are "unwarranted" and maintains that the components in question have never failed in Pentagon tests.

USX GETS HIT WITH ANTITRUST DAMAGES

► USX may have to pay antitrust damages of up to \$1 billion. A federal jury found that a former USX unit, Bessemer & Lake Erie RR, "materially" injured customers by conspiring to block construction of alternative vessels and facilities for unloading Great Lakes iron ore. USX plans to appeal any damage award, the size of which a jury will soon announce. USX recently sold most of BLE to Blackstone Capital Partners but retains most legal liabilities.

NIKKO TEAMS UP WITH WELLS FARGO

► San Francisco's Wells Fargo, the nation's 11th-largest bank, wants more Japanese clients. Nikko Securities, Japan's No. 3 stockbroker, is determined to build its U.S. business. So they're teaming

up. On June 27, Nikko agreed to pay \$125 million for a 50% stake in a new joint venture that will run Wells Fargo Investment Advisors.

Wells Fargo, a pioneer in the use of investment funds pegged to stock indexes, manages \$70 billion for U.S. corporations and governments but has had little success in cracking the Japanese market. And while Nikko is a leader in quantitative investment strategies at home, it and other Japanese brokers have failed to attract much business in America.

KOCH TO MERRILL LYNCH: TRAITOR!

► To Merrill Lynch, its plan to move 2,600 back-office and support staffers from Wall Street to the New Jersey waterfront is a shrewd, money-saving idea. But to New York Mayor Edward Koch, trailing badly in a fight for reelection, it's a betrayal of his city. Koch has vowed to remove Merrill as the lead underwriter of the city's general obligation bonds, worth \$10 million in annual fees paid to Merrill.

In its defense, the brokerage giant notes that 13,000 employees will remain in Manhattan. Nevertheless, the move—the largest single transfer of employees across the Hudson River—is a setback to Koch, who persuaded Chase Manhattan Bank last year to relocate 4,600 workers

ONLY EFFERVESCENT PERSONALITIES NEED APPLY

If your job is selling bubbly, romance is a very serious subject. After all, says Frank De Falco, spokesman for Korbel Champagne Cellars, studies indicate that "many incidents of champagne consumption occur during a romantic situation."

Small wonder, then, that Korbel has a Romance, Weddings, and Entertainment Dept., presided over by a Director of Romance. And the position is open. The current director, author-astrologer Joyce Jillson, whose works include *Real Women Don't Pump Gas: A Guide to All That Is Divinely Feminine*, says she has too many outside projects to give the job the attention it deserves. So Korbel is hunting for a successor. Along with being of legal drinking age, the ideal candidate should "personify romance in some highly visible or glamorous way." So would Korbel accept a resumé from, say, ultraglamorous actress Joan Collins? "Sure!" says De Falco. "Nothing would please us more." Miss Collins, call your agent.



to downtown Brooklyn instead of New Jersey.

DELTA AND AMERICAN CANCEL THEIR DEAL

► Further evidence that the Bush Administration doesn't think "regulation" is a dirty word: Under threats from the Justice Dept. to block the planned merger of the reservations systems of Delta and American Airlines, the two carriers called off the deal. Attorney General Richard Thornburgh announced plans to file an antitrust suit, charging that the proposed combination, valued at about \$2 bil-

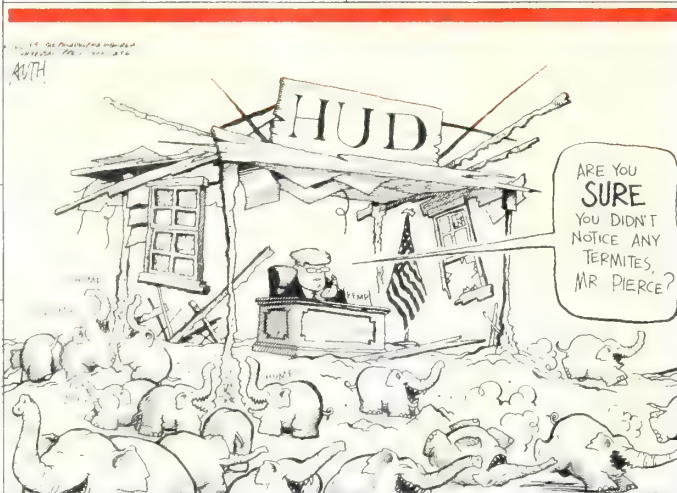
lion, was likely to hurt airline competition and result in increased fares.

Together, the two systems—to be linked as a joint venture—would have controlled about 48% of the U.S. market, placing it far out in front of No. 2 United. Delta CEO Ron Allen said the arrangement would have been "pro-competitive." The airlines decided to terminate the deal rather than go through a lengthy, costly court fight.

A THRIFT CHIEF GOES ON THE LAM

► Tom Billman, chairman of the thrift whose collapse sparked the 1985 Maryland savings and loan crisis, has fled to Europe, taking ill-gotten gains with him, according to the Baltimore U.S. Attorney. Billman's Community Savings & Loan funded \$1.4 billion worth of bad real estate investments by Equity Programs Investment, another Billman company.

U. S. Attorney Breckenridge Willcox has issued a warrant for Billman's arrest. Willcox alleges that Billman is using money misappropriated from the S&L to invest in European banking deals.





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THE GOP STOKES A NEW FIRE TO ROAST DEMOCRATS

For 15 years, campaign finance has been a dream issue for Democrats. Professing dismay over the steadily growing role of political action committees, party leaders have regularly called for an overhaul of the post-Watergate reforms—then blamed special interests and Republicans when their calls went unheeded. All the while, Democratic incumbents have grown fat on a diet of PAC contributions.

Sensing that Washington's current fascination with ethics has created an opening, the Republicans are mounting a counteroffensive. On June 29, President Bush was scheduled to propose campaign finance revisions that would eliminate direct business and labor PAC contributions to candidates, while sharply increasing the amount that individuals can give.

"We need to be the party of reform," says Edward J. Rollins, co-chairman of the National Republican Congressional Committee (NRCC). Sounds noble. But to the battered Democrats, who have already seen House Speaker Jim Wright (D-Tex.) and Whip Tony Coelho (D-Calif.) fall in the ethics wars, "reform" has become a fighting word. Republican strategists see reform as one weapon in an assault that is designed to break 35 years of Democratic dominance of the House.

For years, the only thing Republicans found wrong with corporate PACs was their unfortunate tendency to shovel money to the Democrats. NRCC Chairman Guy Vander Jagt (R-Ich.) pleaded with business PACs to put their money where their hearts were—on GOP challengers. But corporate interests like to bet on winners, and they have directed the bulk of their giving to incumbents, most of whom are Democrats.

ELLEN TREE-SHAKER. Federal Election Commission figures show that in last year's campaigns, Democratic House incumbents received 51% of their contributions from PACs, including those affiliated with unions. Republican incumbents received only 40% of their funding from the same groups. And GOP challengers—the key to any Republican gains—got only 11% of their money from PACs. The current system "is too pro-

incumbent," says Representative William M. Thomas (R-Calif.). "We have to strip that away."

Republicans also would benefit from an increase in the limits on individual contributions. Bush's plan would raise the ceiling from \$2,000 per campaign to \$5,000. Republicans get the overwhelming majority of their money from individuals, thanks to a vastly superior grass-roots fund-raising network and more willing donors. By contrast, the Democrats received only half their funds from individuals.

The GOP assault is coming at a time when the House Democratic fund-raising apparatus is in disarray. Coelho's departure deprives the party of its most talented tree-shaker. The Democratic Congressional Campaign Committee, which Coelho turned into a money machine, is \$1.6 million in debt despite record receipts in the last campaign. The committee, which has lost a number of key staffers, is finally moving to fill the slots. But some Democrats would like to dump DCCC Chairman Beryl Anthony Jr. (D-Ark.). "The whole infrastructure has collapsed," says one worried strategist. "What we need is a clean sweep of the leadership there."

The disorganized and demoralized Democrats must find a way to parry the GOP reform thrust. The consensus in the House favors an old idea that has never caught fire—public financing of congressional campaigns. "As far as Democrats are concerned, it's the only way," says Representative Barney Frank (D-Mass.). But public financing faces rough going in the Senate. And Bush promises to veto any plan for taxpayer-subsidized campaigns.

The gulf between Democrats and Republicans is so wide that this Congress will likely approve only modest changes in campaign financing. But the real significance of the GOP's onslaught is that an inventive and nimble Republican minority has found yet another way to torture the Democrats. And over at the White House, President Bush, knowing an opportunity when he sees one, is only too willing to join in the crusade.

By Douglas Harbrecht and Richard Fly



VANDER JAGT

CAPITAL WRAPUP

AIRLINES

Takeover activity in the airline business is sending up storm signals both on Capitol Hill and in the Administration. Two leading members of the Senate Commerce Committee, Wendell I. Ford (D-Ky.) and John McCain (R-Ariz.) have introduced a bill requiring prior approval by the Transportation Secretary before anyone could acquire 5% or more of an airline. The Secretary would be required to certify that the deal would not adversely affect the carrier's ability to operate and expand. Meanwhile, investor Alfred A. Checchi's plan to acquire the corporate parent of Northwest Airlines Inc. is in a

holding pattern at the Transportation Dept. Secretary Samuel K. Skinner has ordered his staff to give the deal careful scrutiny to determine if there is any reason to oppose it.

TAXES

House Ways & Means Committee Chairman Dan Rostenkowski (D-Ill.) is putting a price tag on the tax increase he thinks is needed as part of a comprehensive budget deal with the White House. Rostenkowski believes \$30 billion a year in extra revenues is needed to both reduce the deficit and fund President Bush's own initiatives. So far, however, the President is sticking with "read my lips."

PRIMARIES

If the California legislature has its way, the selection of Presidential nominees in 1992 could be all but over by early March. California pols have watched in dismay as their last-in-the-nation primary has become more and more irrelevant. Now, Republican Governor George Deukmejian is backing a plan to move the June primary up, and an Assembly committee will soon vote to set the date at the first Tuesday in March. If the rest of the primary calendar—including the big Southern regional vote—remains unchanged, over half of the Democratic delegates may be chosen by Mar. 3.



DEMONSTRATORS ON THE HILL: ALTHOUGH BUSH OPPOSES ECONOMIC SANCTIONS, CONGRESS COULD BACK HIM INTO A CORNER

THE OUTSIDE WORLD PUTS CHINA ON HOLD

Billions of dollars worth of aid have been suspended. Just how far will the backlash go?

China is beginning to pay an economic price for the bloody crushing of demonstrations in Tiananmen Square and the execution of pro-democracy protesters. In the four weeks since the June 4 massacre, foreign governments and international bodies have suspended billions of dollars worth of aid, loans, and credits.

With surprising unanimity, governments from Japan to Belgium to West Germany have stalled high-level contacts and tightened up on technology exports. Projects such as Shanghai's German-supported subway are in doubt, and such Western goods as Boeing 757-200 jetliners are suddenly out of reach.

The key question is just how far the foreign backlash will, and should, go. The new Chinese leadership unveiled on June 24 was distinctly hardline. Its composition

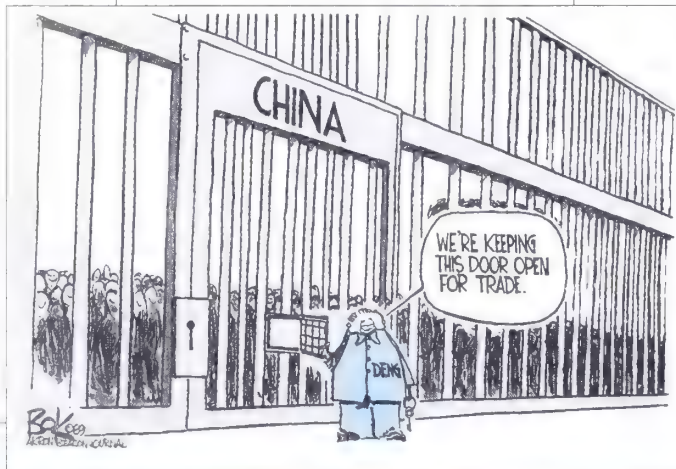
showed no evidence that Beijing will back down from its goal of purging the Communist Party of reformers, hunting down student leaders, and recentralizing control of the economy.

Although Tokyo's official response to China's repression has been muted, Japan did begin a "review" of a \$5.6 billion loan package that affects 42 projects in China. The World Bank suspended con-

sideration of \$780 million worth of loans and credits, and the Manila-based Asian Development Bank did the same for an additional \$1 billion worth.

REAL TEETH. The 12-nation European Community summit in Madrid on June 26-27 banned arms sales to China and suspended new cooperation agreements until China's "brutal repression" is halted. The action brought the EC into line with President Bush's position and ratified steps already taken by individual European governments.

The West Germans, who have extended \$2.1 billion of export credits, suspended consideration of any new credits and put \$215 million in aid, mostly for Shanghai's subway, on hold. Europe's decision to act was spurred in part by practical considerations such as the sheer uncertainty of dealing with China and domestic political



battles involving Communist parties. Most governments hope that if Beijing eases its repressive measures, the extensive web of ties they have painstakingly built with China can be preserved. The major wild card is the U.S. Congress. In late June, the House began consideration of 13 separate economic sanctions against China. Among them were restrictions to cut off high-tech exports and to deny China's most-favored-nation trading status, which would deprive it of the right to send billions of dollars worth of goods to the U.S. at reduced tariffs.

Although the Bush Administration staunchly opposes most of the provisions, foreigners worry that Congress could back the Administration into a corner and force it to enact sanctions with real teeth. "Companies in my country are more interested in what's going on inside the Beltway [regarding China] than they are in what's happening with the leadership in Beijing," says one Washington-based Japanese diplomat.

SECRET WEAPON. Barring some dramatic new Chinese brutality, however, it is unlikely that Congress will revoke China's most-favored-nation status. To extend MFN status, the Administration has to certify that a nation complies with the Jackson-Vanik amendment, which ties trade to emigration policies. Bush did that for China on May 31, just prior to the Tiananmen crackdown. To overturn Bush's action, both houses of Congress would have to reject it and override a veto by two-thirds votes.

The Administration's secret weapon to influence the Chinese is former President Richard M. Nixon. Nixon is now believed to be operating as Bush's personal envoy to China's leaders. He could meet soon with one of Deng Xiaoping's representatives in a second "opening" to China. A spokesman for Nixon denies that he is engaged in any such effort.

Whether to return to business-as-usual is a question also facing executives around the world. Those trying to sell or invest in China have to decide if they want to risk the indignation of customers back home and perhaps be trotted out on China's national TV for propaganda purposes, as Italy's Fiat was. If major confrontations lie ahead in U.S.-Chinese relations, that could destabilize the business environment even further. This uncertainty, as much as any moral stance, will make it difficult for all but the biggest and most committed foreign companies to do business in China.

The new Chinese leadership does consider the open-door policy as important. Jiang Zemin, the new Communist Party boss, and Li Ruihuan, newly appointed the party's six-man standing committee, have met many foreign business leaders in their capacities as the top offi-

cials of Shanghai and Tianjin, two of the most active cities in attracting foreign investment. Although Jiang won political points among the hardliners by quickly executing three men who allegedly set a train on fire, he was not responsible for any of the events in Beijing.

One big challenge for the new leaders will be to control China's widening economic chaos. Even before May, the Chinese were facing serious problems of inflation, shortages, income disparities, corruption, and sluggish exports. Now, the leadership may try to reimpose greater central planning, but it is likely

to fail. The coastal provinces already have too much economic clout.

The economic crisis will be compounded as sources of foreign exchange dry up. Tourists are staying away. Banks are reassessing risks. Companies are shying away. And academic and cultural exchanges are slowing down. Ultimately, these informal sanctions may have more effect on China than the actions of world governments.

By Dori Jones Yang in Hong Kong and Bill Javetski in Washington, with William J. Holstein in New York and bureau reports

BRITAIN

IS CONSGOLD 'JUST AN APPETIZER' FOR HANSON?

By next year, the cash-rich conglomerate may be on the prowl again

Hanson PLC, the acquisitive British conglomerate, has always had trouble resisting a deal. So when a 29.9% stake in Consolidated Gold Fields PLC, the world's second-largest gold mining group, was thrown under its nose, it bit. The ConsGold stock was put up for auction in May by South African-controlled Minorco after it failed in its hostile bid to take over the company. On June 22, the cash-rich Hanson struck a deal with Minorco for the minority stake and launched its own \$4.8 billion offer for all of ConsGold.

If the takeover is successful, as appears likely, it would be Europe's largest ever—a crowning achievement for any other company. But for Hanson, ConsGold could be simply a quick but profitable detour. ConsGold "is just an appetizer to keep the pot boiling for another six months," says Robert E. Morton, analyst at Barclays de Zoete Wedd Ltd. He and other London analysts are betting that Chairman Lord Hanson will recoup the bulk of the purchase price by disposing of most of ConsGold, with the exception of its crown jewel, ARC Ltd., a lucrative stone and gravel division. By early 1990, Hanson could be ready to gobble up something else.

Even so, ConsGold is unlikely to provide the huge returns that Hanson has

racked up on some of its earlier acquisitions. After taking over SCM Corp. in 1986, for example, it has recouped far more than the \$930 million purchase price while retaining units producing \$200 million a year in profits. A Minorco executive figures ConsGold's breakup value is perhaps \$28 a share. But Hanson started its offer at \$22.17 a share, and probably needs to go higher to win. As most ConsGold assets it sells would

incur capital-gains taxes, that doesn't leave much margin for turning a profit. But Hanson, with \$3 billion in the bank and borrowing power of an additional \$17 billion, can afford to wait for buyers willing to pay its asking prices.

ConsGold's structure makes it a fairly simple breakup target. About half its value consists of minority stakes in publicly quoted mining companies in the U.S., South Africa, and Australia. And

these stakes range from 38% to 49%, enough to hold the key to control of these companies. So Hanson may be able to exact premium prices for them.

'NO SECRET.' In all, Hanson could raise perhaps \$2.5 billion before capital-gains taxes from selling ConsGold's stock holdings. The most valuable is a 49% stake in Newmont Mining Corp., the leading U.S. gold miner. Newmont's shares shot up 15% on news of the Han-



LORD HANSON HAD BEEN KEEPING QUIET

son bid, valuing the ConsGold stake at \$1.3 billion. Possible bidders include Canadian mining giants Placer Dome Inc. and American Barrick Resources Corp. "It's no secret we're looking to make a major acquisition," says John W. W. Hick, a senior vice-president at Placer, which is sitting on \$500 million in cash. But he contends that Newmont is "priced over its value." Although more leveraged, American Barrick owns a super-rich mine in the Carlin Trend near Elko, Nevada, next door to large Newmont holdings. Barrick believes its gold vein runs through the Newmont land.

Before its latest multibillion dollar salvo, Hanson had been unusually quiet. Its

most recent deal came in late 1987 with the \$1.7 billion purchase of U.S. conglomerate Kidde Inc. Since then, Hanson has been dumping companies, convinced that high prices for takeover targets made it a seller's market.

ConsGold, the exception to this rule, proves that Lord Hanson, 67, and his partner, Sir Gordon White, 66, are still ready to roll when the right deal comes along. Until recently, some thought the two Brits might be looking for one last splash before they retired. Now that they have plunged, the pundits aren't so sure.

By Mark Maremont in London, with Chuck Hawkins in Toronto

such criticism by allowing covert American military aid to be funneled through Zaire to antigovernment guerillas in Marxist Angola. This effort seemed to pay off when the Angolan government agreed on June 22 to negotiate with the rebels, who are led by Jonas Savimbi. The pact was reached at Gbadolite, Mobutu's lavishly modernized home village.

Mobutu's emergence as a peacemaker has drawn praise from both Washington and African heads of state. In private, however, neighboring leaders remain disapproving of his association with Savimbi, who has links to South Africa. Mobutu may soon find himself squeezed between the Bush Administration, which will want to continue military aid to Savimbi until he is represented in the Angolan government, and African leaders, who seek a quick end to the war.

HIGH-LEVEL SMUGGLERS. Mobutu has a long history of aiding and profiting from various Administrations. In 1976, for example, when Bush headed the Central Intelligence Agency, Mobutu took \$1,376,000 from an agency fund for Angolan rebels, according to John Stockwell, who ran the operation. But Mobutu was kept on the payroll.

Today, Zaire remains a country run mainly for the benefit of a few. A 1988 World Bank study says that "some of the most powerful individuals in the country" are involved in large-scale cobalt smuggling. Mobutu's expenses as

President amount to more than is allotted to schools, hospitals, road building, and all other social services combined, according to statistics from Zaire's central bank. Mobutu's current foreign minister, Nguza Karl I Bond, while an exile in the early 1980s, gave Congress documents showing that Mobutu and his family took more than \$150 million from the central bank for their own use. In an interview last year, Mobutu said his fortune was less than \$50 million. "What is that after 22 years as head of state of such a big country?" he declared. Critics say he's a billionaire.

Despite the political links, U.S. trade with Zaire is one-eighth that with Angola, where the U.S. spends an estimated \$30 million a year on the rebels. Endemic corruption has hurt Zaire's efforts to strengthen commercial ties to the U.S. But as long as Mobutu is politically useful, the Administration seems willing to overlook his management style.

By Steve Askin in Harare, Zimbabwe, and Bill Javetski in Washington.

ZAIRE

'PEACEMAKER' MOBUTU IS UNDER FIRE

He helped halt Angola's war—but critics want to stop all aid to Zaire

Zaire's President, Mobutu Sese Seko, has his critics, but he knows how to make himself look good at the right time. Mobutu's arrival at George Bush's White House in late June came just after he presided over a cease-fire in the 14-year Angolan civil war. Despite widespread concern in Washington about his pocketing aid, the African leader also got a new stamp of approval from the International Monetary Fund, which voted in June to lend his government \$253 million.

Mobutu's backers in Washington view him as the key bulwark in black Africa against radical regimes from Angola to Libya and as a guardian of such strategic minerals as cobalt and industrial diamonds. Next year, the Bush Administration plans to extend about \$60 million in aid to Zaire, about what it got last year.

COVERT AID. Yet Mobutu faces growing numbers of congressional critics who consider him a holdover from the era when Washington's close links to self-enriched dictators, including former Philippines President Ferdinand Marcos and the late Shah of Iran, damaged the reputation of the U.S. in the Third World. "Literally hundreds and hundreds of millions of dollars have vanished into the hands or bank accounts of the President and his collaborators," House Africa subcommittee Chairman Howard

Wolpe (D-Mich.) charged in March. Congressional Black Caucus Chairman Ronald V. Dellums (D-Calif.) wants to stop most U.S. aid to Zaire and formally condemn the Mobutu government's "uncontrollable corruption."

In recent years, Mobutu has overcome



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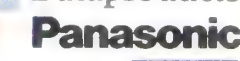
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DOWN AND OUT IN LATIN AMERICA

Debt and mismanagement have put economies in shambles from Tijuana to Tierra del Fuego

Last summer in Argentina was a living hell. A drought lowered the country's hydroelectric capacity. Its two nuclear power plants were down for lack of spare parts. The resulting energy crisis knocked out refrigeration and air conditioning. People using elevators risked entrapment for hours, and young boys made a killing carrying groceries up 10 or 15 stories for the elderly. Horrific Argentines saw that their country, once as developed as Spain and Italy,

sparked "anti-austerity" uprisings in February, in which hundreds died. Another dozen or so fell in Argentina's food riots in May. Brazil could be next.

BUSTLING CAPITALS. Only a decade ago, these same countries were on the verge of breaking out of the Third World. Their capitals bustled, and their industries boomed. But while the industrialized countries rocketed into the computer age and the Asian Tigers flexed their export muscle, Argentina, Brazil, Mexi-

crisis mean there's no time to lose, says a World Bank official: "If we want to see these countries succeed in their reforms, we have to support them."

How could they have fallen so far, so fast? The most obvious reason, of course, is debt. The region's \$400 billion collective IOU piles up \$100 million in interest charges each day. Then there's capital flight, estimated at \$300 billion from Brazil, Mexico, Venezuela, and Argentina. But even if interest payments

and capital flight could be halted, the continent would still be stumbling. Part of its load is its history. With richer natural resources than the Asians, Latin Americans too often skewed their economies toward one commodity or another—oil in Mexico, grain in Argentina, coffee in Brazil—and then crashed with commodities in world markets.

NORTHWARD MIGRATION. The area's growing poverty spells trouble for the U.S. as well as for the Latins. An Argentine doctor earning \$150 a month cannot buy a Ford Taurus or Macintosh computer, and in fact, U.S. exports to Latin America have fallen to 14% of total exports from about 20% in the early 1980s. Just as troubling, misery in Latin America will drive growing numbers of the poor

to migrate north. U.S. immigration authorities recently noted that illegal entrants along the southern U.S. border are increasingly likely to be from Ecuador or Brazil instead of from Mexico.

Yet tremendous hope and opportunities exist too. Throughout the region, cash-hungry governments are beginning to tear down barriers to private foreign investment. In May, Mexico put *Compañía Mexicana de Aviación* on the block. Venezuela is moving to sweep aside tariffs. Argentina may sell off its chaotic telephone company, perhaps to foreigners. Even populist governments in Jamaica and Nicaragua are courting partners overseas. The reason: All of these countries, regardless of ideological



BY THE BOARD: RADICALLY DEVALUED CURRENCIES ARE HASTENING THE FLIGHT OF CAPITAL FROM THE REGION

seemed headed the way of the Sudan. Latin America is falling apart. You can see it in the potholed roads and crumbling bridges, in half-finished buildings and decaying water mains. What was simply neglect in the first half of the 1980s has become a massive deterioration of the area's infrastructure. The overall cost is incalculable. Just to repair the roads, for instance, may cost \$6 billion—more than twice the sum of foreign investment in the region in 1987.

Without rapid changes, the economic erosion could spark political upheaval and scare away investors just when they're needed most. Already, social tensions have begun to pop and crackle. In Venezuela, plunging living standards

co, and Venezuela began sliding under a load of debt and mismanagement (charts, page 45). In what Venezuelan President Carlos Andrés Pérez calls "the perverse decade," countries of tomorrow have been "undeveloping."

Resolving the debt crisis won't be enough. The region's fledgling republics require massive investment and radical economic reform. More and more, their leaders recognize that they have few choices. In Latin America, "there's a readiness to embrace market mechanisms in a way there hasn't been in 25 to 30 years," says Christopher Mitchell, a Latin America specialist at New York University. The new pragmatism among politicians and the deepening economic

stripe, need money badly. And banks aren't going to be lending much in coming years. "Foreign investment is the only game in town," says one diplomat in Mexico.

The country that took the most precipitous spill is Argentina—as big as India and blessed with the richest farmland south of Illinois. Decades ago, Argentines used to pick up free bread at the markets and slaughter a steer just to get a few steaks. Now, with the currency being devalued by the hour and a minimum wage of less than \$30 a month, Argentines are lucky to be able to afford standard fare of rice and beans. It's like a middle-class family that drops below the poverty line," says N. Charles Rowe, executive vice-president of Bank of Boston in Buenos Aires.

HEMORRHAGING. Many predict that President Carlos Menem, who takes over from a faltering Raúl Alfonsín on July 8, will be six months ahead of schedule, will be able to forge a needed social pact. As a Peronist with labor support, "Menem can ask of the unions what Alfonsín could never ask—cooperation," says Paul G. Buchanan, an Argentina specialist at the University of Arizona. Menem has also moved to tighten contacts with business by choosing Miguel Roig, a retired executive from Argentina's largest private company, Bunge & Born, as his Economics Minister. But even with political peace, Argentina suffers from a \$60 billion foreign debt and 115 state businesses, employing 22% of the work force, that are hemorrhaging money.

Brazilians are also sweeping up broken dreams. Unlike their Argentine neighbors, Brazil's military rulers developed the country's export industries in the 1970s, a strategy that notched some success. São Paulo state alone manufactures more than any other country in South America. Even on "automatic pilot" last year, with no political direction," says Manuel Lasaga, senior international economist at Miami's Southeast Bank, Brazil "racked up a huge trade surplus" of \$19 billion on record exports of \$33.7 billion. That helped make a dent in the \$115 billion foreign debt.

But while exports boom, the rest of Brazil languishes. The economy will shrink this year. And 100 million Brazilians remain submerged in poverty. Inflation approaches 20% a month. The telephone shortage means a new phone line costs \$6,000 on the black market. Brazil's highways are paths of death, with mortality rates 13 times higher per car than in the U.S. Manufacturers face a looming electricity shortage. Says William Frank, São Paulo manager of consultants Alexander Proudfoot PLC: "If things continue to get worse, people are going to say: 'What the hell, I'll put my plant in Taiwan.'"

Brazil's biggest loss is in its young people: The military government that ruled from 1964 to 1985 spent most of its money on creating jobs and very little on schools. Today, only 21% of Brazil's voting population has gone beyond sixth grade. Only 17% of those now in first grade will finish high school. Such patterns fuel an enduring underclass while dragging down Brazil's efforts to develop high-tech industries. Most Brazilians may not be able to read, but they all watch TV. So the most telegenic candi-

date in the runup to Brazil's first direct presidential vote since 1960, in December, is leading in the polls. Whether 39-year-old Fernando Collor de Mello, a former governor from the small northeastern state of Alagoas, can lead is another question.

Like its regional neighbors, Mexico dreamed of development a decade ago. But unlike them, Mexico entered the debt crisis under strong one-party rule. With the Institutional Revolutionary Party's tight grip on business, labor, and the media, former President Miguel de la Madrid was able by 1987 to attack inflation head-on with austerity measures, sell off a number of state-run industries, and reorient Mexico's economy toward exports. None of these measures, however, provided immediate relief. The business and labor groupings that underpin the PRI have begun to erode, and for the first time in decades, opposition parties seriously challenged the party last year. Now, new President Carlos Salinas de Gortari, too, faces growing popular demands.

RUSTING EQUIPMENT. The physical work ahead for Mexico is immense. A major food importer, the country has no Pacific Coast ports that can unload grains. The railroad, short of locomotives, hasn't expanded its tracks since the 1910 Revolution. Oil equipment rusts in piles on the shores of the Bay of Campeche. Mexico City, with 20 million residents, is now the largest city in the world.

In May, the government revised its foreign investment law to attract more dollars and put a \$12 billion overhaul of the telecommunications system on its wish list. It's also inviting private investors to build toll highways and U.S. airlines to finance airports in tourist areas in exchange for airport concessions.

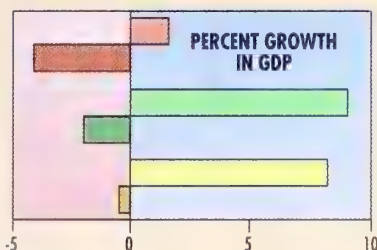
In the five centuries since their birth as a people, Latin Americans have failed to root out the cause of the region's instability: poverty. Right now, the tightly run economies of Japan, Korea, and other Asian exporters look like models. But in the long run, Latin America has to come up with its own solutions. In the new novel by Colombian writer Gabriel García Márquez, *The General in His Labyrinth*, South America's dying liberator, Simón Bolívar, roars at a Frenchman: "Don't try to make us pull off in 20 years what you botched so badly in 2,000.... Let us live our own Middle Ages!" Perhaps that argument would have held water in 1830. But in today's smaller world, southern poverty emigrates north in search of opportunity. Sooner or later, Latin American poverty becomes a First World crisis.

By Stephen Baker in Mexico City, with Jeffrey Ryser in Rio de Janeiro, Mike McNamee in Washington, and Elizabeth Weiner in New York

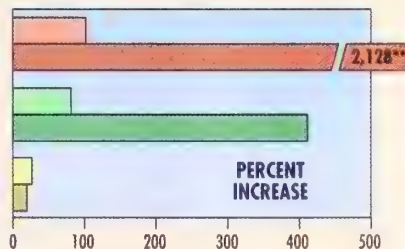
HOW LATIN AMERICA'S ECONOMIES ARE SLIDING BACKWARD

ARGENTINA	BRAZIL	MEXICO
1980	1980	1980
1989*	1989*	1989*

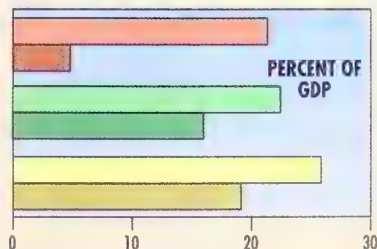
GROWTH IS HALTING...



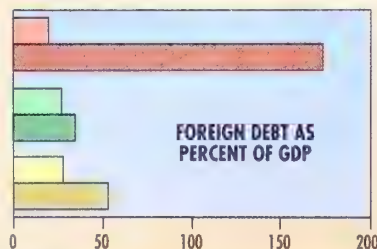
...WHILE INFLATION SOARS



AS INVESTMENT COOLS...



...DEBT LOADS STAY HIGH



*ESTIMATE
**NUMBERS REFLECT MASSIVE REAL DEVALUATION OF THE AUSTRAL THIS YEAR
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WITH THE LDP ON THE ROCKS, JAPAN MAY BE RUDDERLESS

Along Tokyo's narrow streets, political messages blare repetitively from sound trucks as young women, incongruously known as nightingale ladies, seek to roll out the vote. But this political season in Japan is different from any previous one. The Liberal Democratic Party, which has governed Japan for all but two years of its postwar history, is reeling. The result could be a vacuum that deprives Japan of effective political leadership for months or longer.

The LDP is under assault from all directions as it prepares for elections to Tokyo's Metropolitan Assembly on July 2 and to the Diet's upper house on July 23. The party had once hoped to ride out the scandal triggered by Recruit Co.'s stock gifts to lawmakers and public displeasure over a new consumption tax. But sensational disclosures regarding the extramarital sex life of new prime Minister Sosuke Uno seem to guarantee that the LDP will suffer its biggest losses in decades. Uno also may have to resign long before October, when the election for the party presidency is held. If Uno is forced out soon, it could leave the LDP scrambling for a prime minister to send to the economic summit in Paris on July 11.

It seems certain the LDP will lose its majority in the upper house in the vote on July 23. Aside from the furor over Recruit and Uno's trysts with three geishas, a revealing sign was an important by-election in conservative Niigata Prefecture in late June. There, a Socialist woman candidate defeated the LDP incumbent. To control the upper house, the LDP may have to cut deals with independent legislators for support.

That will set the stage for an even more crucial electoral contest for control of the Diet's more powerful lower house. It was originally expected that the party would be forced into calling a lower-house election in December. But the media fascination with Uno's sex life and his possible early resignation could result in even earlier elections.

The problem is that there are few senior LDP politicians untainted enough to succeed Uno. Illness has all but ruled out former Foreign Minister Shintaro Abe, once the odds-on choice. Since whoever emerges is likely to be too weak and distracted to lead Japan toward a coherent international strategy, there may be even more strains with the U.S. over Japan's trading practices and closed markets.

'INTELLECTUALLY EXHAUSTED.' The elections, however, could have a long-term positive impact. Japanese of all political hues say a turning point has been reached in the nation's political culture. The LDP's faction-ridden, crony-dominated machine is seen as increasingly out of sync with Japan's affluent economy and society. "A view has developed that the government has become intellectually exhausted, even as Japan is poised to assume new international responsibilities," says Kenneth S. Curtis, senior economist at Deutsche Bank Group.

Genuine political reform will come slowly because opposition parties don't yet have enough credibility among voters to dislodge the LDP. Still, "a year ago, no one thought Japanese politics would have already changed this much,"

says Tamio Kawakami, a Socialist member of the lower house. Japan's increasing urbanization could eventually force the LDP to redraw districts, giving underrepresented city voters more power. That could spur the emergence of politicians with greater international skills and whose standards of behavior come closer to Western norms.

Until that happens, Japan's political system may have to depend on its strong bureaucracy to muddle through. That may frustrate Americans and Europeans, impatient with Japan's slowness to open its economy. And it could lead to stronger demands from the outside world that Japan mature politically to reflect its economic power.

By Robert Neff in Tokyo



A POLITICAL RALLY IN TOKYO

GLOBAL WRAPUP

EUROPE

The European Community is moving closer toward the creation of an EC central bank and adoption of a common currency. A concession by British Prime Minister Margaret Thatcher at the EC summit in Madrid on June 27 clears the way for French President François Mitterrand to convene a monetary summit next year.

Mitterrand attempted in Madrid to push through an agreement to enact a new monetary accord by 1992. While Thatcher, a longtime foe of joining the European Monetary System (EMS), balked at Mitterrand's plan, she and the other 11 EC members voted to start

cooperating more closely by 1990 in setting monetary and fiscal policies. Sources say the accord will oblige EC central bankers to review goals for money-supply growth and interest rates before setting monetary policies. Finance ministers also will be bound to review economic policies in line with mutually agreed-upon indicators.

Thatcher still insists she won't allow Britain to join the EMS—a precondition for establishing a tighter monetary union—until several conditions are met. Among them: narrowing the gap between Britain's 8.3% inflation rate and the 4.3% EC average; cutting government subsidies throughout the EC; abolition of all foreign-exchange con-

trols; and removal of the EC's internal trade barriers in 1992.

With a unanimous vote of EC members needed to authorize the central-bank plan, Thatcher's last condition alone would delay the creation of the institution for at least three years. But Mitterrand is betting that Thatcher will eventually reverse her stand, much as she did during the EC's 1985 decision to accept free trade. French Finance Minister Pierre Bérégovoy concedes that this time around, the central-bank plan "will require a lot of time" before it can be adopted. But for now, even Thatcher seems ready to accept a somewhat higher degree of economic and monetary cooperation.

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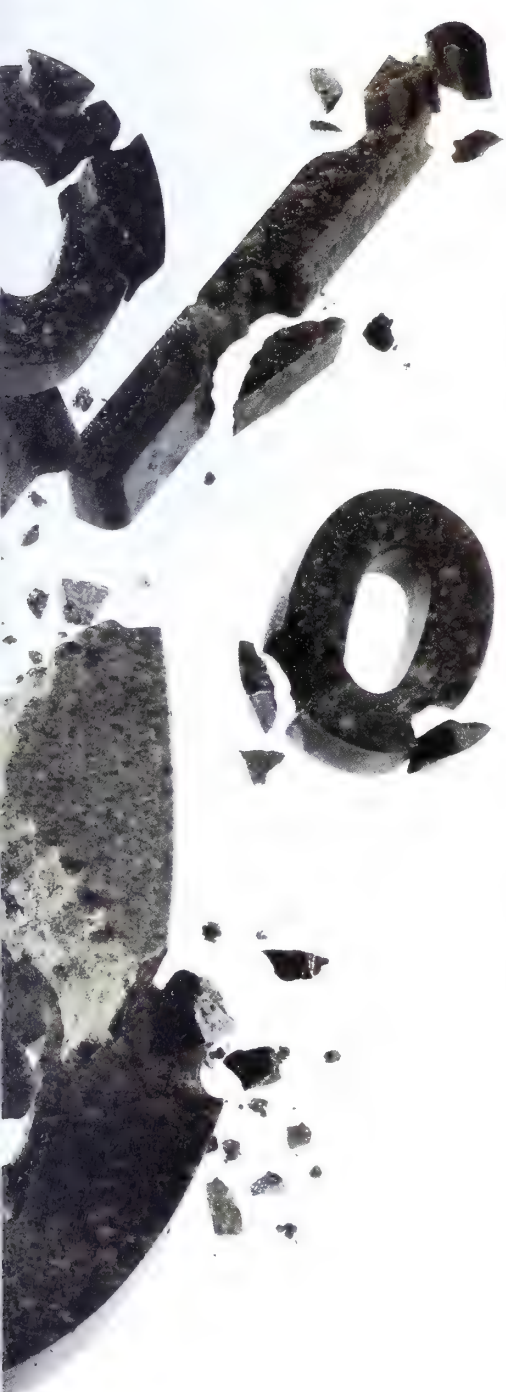
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Joe Nacchio, AT&T Vice President
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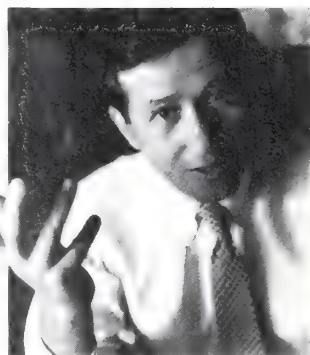
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THE BIG STORE'S BIG TRAUMA

Sears CEO Brennan has to slash costs—and that will be painful

It has been a hellish eight months for staffers at Sears, Roebuck & Co.'s Merchandise Group. Last October, Sears Chairman Edward A. Brennan announced plans to uproot his 6,000-member corporate retailing operation in Chicago to new, cheaper digs, possibly out of state. Rumors of impending moves to Dallas, Atlanta, or other Sunbelt cities ricocheted around the 110-story Sears Tower.

On June 26, Brennan eased some of the internal anxiety by announcing plans to move the group to a nearby Chicago suburb, Hoffman Estates. It could take three years, the chairman said, and he thanked the employees and their families "for their patience and understanding during this period of uncertainty." But that doesn't mean the uncertainty for Sears' 520,000 employees is over.

Sears is in trauma—the trauma of change. Brennan is under enormous

pressure to slash the retailer's cost structure, and employees know it (chart, page 54). Sears' merchandising corps is nearly twice the size of those at rivals Wal-Mart Stores Inc. and K mart Corp.—far out of proportion to relative sales. Brennan has already eliminated thousands of employees by restructuring his distribution system and by offering early retirement. But insiders say he's nowhere near where he wants to be in cutting through Sears' bureaucracy. Before the company can be truly competitive, more heads must roll. "They've already destroyed all the goodwill of the employees," says one former buyer who saw his department eliminated in January. "Nobody trusts them."

ERA'S END. The 55-year-old Brennan, a burly Sears career man, is storming through the Big Store. Last fall, after rumors swirled that Revlon Group Chairman Ronald O. Perelman was preparing a bid for the \$50.2 billion company, Brennan announced he would sell the tower, Coldwell Banker's commercial real estate arm, and Allstate Insurance's group health insurance business. He pushed Sears into "everyday low pricing" and pledged that he would cut costs dramatically.

Brennan declined to be interviewed or to answer written questions from BUSINESS WEEK for this story. It is based on interviews with former and current Sears officials and store-level employees, as well as analysts, competitors, and consultants familiar with Sears. Judging by the picture that has emerged, Brennan has plenty of work left to do in remaking Sears. The retail group's earnings have fallen at an annual rate of 7.7% for the last five years. As a result, Sears' overall profit growth has remained flat over the same period—and its lagging stock performance has become the object of Wall Street's scorn (chart, page 54). Even with strong first-quarter



sales and earnings gains, its retail profit margins are razor thin.

Later this month, at a retail group conference called "A New Beginning," Brennan will completely streamline the way Sears sells its goods. That, coupled with the move, will eliminate big blocs of employees, perhaps numbering in the thousands. Brennan will shorten lines of authority in the pared-down retail group and put Sears' massive field organization under the control of headquarters for the first time in decades. If it works, Sears may finally start to look more like the competitors that have run circles around it for years.

It may be too late, however, for Sears to regain its former stature. The era of the general merchant has passed. Real retail growth now comes from powerful niche players, such as discounters and electronic superstores. With its size and clout, a spruced-up Sears can certainly give these upstarts stiffer competition. But it may not be able to regain the 15% of the market it has lost relative to its four largest competitors since 1971 (table). Says Montgomery Securities analyst Edward A. Weller: "They will never be a big market-share gainer again."

It wasn't so long ago that Sears lorded over the retail industry much as its tower reigns over Chicago's skyline. Starting as a catalog company for farm-



BRENNAN WITH PORTRAIT OF FOUNDER SEARS



**BRAND-NAME DISPLAYS
ARE MEANT TO RIVAL
SPECIALTY RETAILERS**

rs, Sears grew with the nation, sating a aging appetite for material goods. But y the mid-1970s, Sears began to lose its peal to the middle class as a one-stop hopping emporium. Sears' collection of rivate-label goods began to look in- reasingly dowdy as specialty retailers ke The Limited Inc. and Toys 'R' Us nc. sprouted up nationwide. Also, ow-overhead discounters, such as K mart and, later, Wal-Mart, built effi- cient empires that battered Sears on rice.

BEDDING BOTCH. In the face of such changes, Sears' biggest handicap is pa- lalysis inflicted by its size. As it blanket- ed the country with stores, its manage- ment structure turned into a balkanized ness. Cliques in the buying organi- zation at head- quarters tended o smother cre- tivity at the op. Worse, pow- er struggles be- tween the buying groups at head- quarters and store nanagers in the ield slowed down and distorted im- plementation of even he simplest new ideas. Store managers often neglected or flatly ignored new

merchandise and promotions. "By the time you got to the store, you had only a reflection of the original idea," says one longtime store manager.

An idea as simple as new bedding pro- vides an example. One former top execu- tive says that when he tried to imple- ment a special bedding department in 1987 to offer flashy quilts and sheets for yuppie tastes, the plan stalled as it wended through the layers of approval. Although his bosses thought enough of the idea to target 12 stores as a test, after a slew of meetings and delibera- tion, only four stores participated. Now, the idea is collecting dust. Asks a former Sears apparel merchant: "Can any com- pany afford the amount of time and de- bate that goes into Sears' assortment?"

What's more, decentralized accounting

methods made it difficult for buyers sit- ting in Chicago to track merchandise. Finding out how screwdrivers were sell- ing in Albuquerque, for instance, was nearly impossible. The bottom line: Mer- chandisers had little information to work with, which made the huge retailer slow to react to its own sales patterns and larger consumer trends. By contrast, corporate buyers for competitors such as Wal-Mart place merchandise directly in their stores and keep a tight watch on inventory movement. If something doesn't sell, it is swiftly replaced with something that does.

Brennan cut his teeth on the same system he is now trying to alter. Ed and his younger brother, Bernard, who now runs crosstown rival Montgomery Ward & Co., grew up in Oak Park, then a roll- up-your-sleeves, Irish Catholic suburb just west of Chicago. It was hardly a carefree childhood. Their parents broke up, and Marge Brennan left the family for a new life in Mexico. Edward Bren- nan, their father, stayed with Sears in Chicago as a boyswear buyer, and young Ed gravitated to the merchant trade as soon as he hit working age. He worked part-time during high school at an Oak Park shopping center. His only other serious interests at the time: foot- ball and his childhood sweetheart, Lois, whom he later married.

UNSENTIMENTAL. Brennan joined Sears in 1956 at the age of 22, a formal, but- toned-up fellow who showed early on he could be tough. Brennan is described by associates as a no-nonsense executive with an endless ability to absorb detail. While his manner is friendly enough, he doesn't tolerate fools gladly. "He has an enormous reservoir of self-confidence," says one Sears executive.

As head of Sears' Southern territory during the late 1970s, he broke a sacred company tradition by laying off employ- ees based on performance rather than seniority. Catching the eye of Chairman Edward R. Telling, he was picked to run the entire Sears Merchandise Group in 1981. By 1984, retail net income had



THE COMPETITION IS GAINING ON SEARS

TOP RETAILERS 1971		
Company	Revenues Billions of dollars	Share of top five Percent
SEARS, ROEBUCK	\$10.1	44%
J.C. PENNEY	4.8	21
KRESGE*	3.1	13
WOOLWORTH	2.8	12
MONTGOMERY WARD	2.3	10

DATA: CHAIN STORE AGE

*Renamed K mart Corp. in 1977

TOP RETAILERS 1988		
Company	Revenues Billions of dollars	Share of top five Percent
SEARS, ROEBUCK	\$30.2	29%
K MART	27.3	26
WAL-MART	20.6	20
J.C. PENNEY	15.2	14
DAYTON-HUDSON	12.2	11

DATA: COMPANY REPORTS, BW ESTIMATES

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ago, for example. And currently leads them to keep crash-testing new cars in the laboratory at the rate of one every 17 working hours, in search of further refinements.

And out in the real world, where such

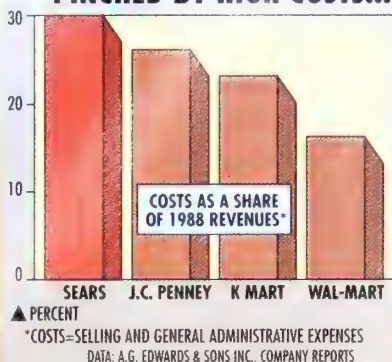
engineering efforts are finally judged, it leads the thinking luxury-car buyer to think rather highly of Mercedes-Benz.

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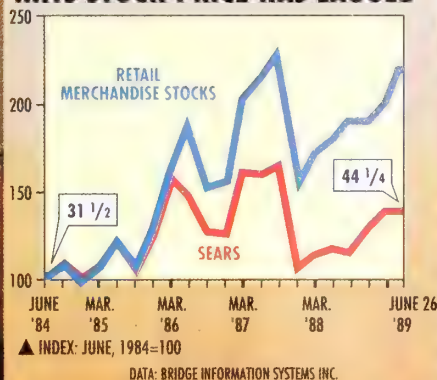


ENGINEERED LIKE NO OTHER CAR IN THE WORLD

WHY SEARS IS CHANGING PINCHED BY HIGH COSTS...



...ITS STOCK PRICE HAS LAGGED



SEARS TOWER: "WE ALL FELT LIKE WE WERE SELLING OUR MOTHER"

jumped fourfold, to \$905 million, and Brennan's "Store of the Future" program, which spruced up stores with new fixtures and lighting, appeared to have the retailing operation back on track. Few were surprised when Telling tapped Brennan as his successor in 1985.

By that time, Telling had steered Sears well into financial services by supplementing its profitable Allstate subsidiary with the purchase of brokerage firm Dean Witter Reynolds Inc. and Coldwell Banker real estate. Sears hoped to ply its retail customers with stocks, homes, and insurance. With the addition of the Discover Card in 1986, the idea was born to create a financial supermarket through the mail.

ANGRY INVESTORS. But by early 1987, it was clear that neither the Store of the Future nor the idea of financial synergies was living up to the dream. In-store Dean Witter and Coldwell Banker kiosks were disappointing, and Brennan put the financial supermarket idea on hold in favor of building those units individually. His focus became the retail morass.

His first step was to elevate Michael

Bozic, a young go-getter who had turned around the Sears Canada Inc. unit, to retail chief. Bozic quickly slashed 9,230 jobs in a bid to modernize Sears' ancient distribution system. He reached an exclusive pact with McDonald's Corp. to market a new line of children's clothing called McKids and spiffed up the apparel departments.

For sleepy Sears, it was whirlwind. But Wall Street was still searching for a coherent new strategy. By early 1988, Sears' clan of institutional investors was clamoring for action. In February, Brennan summoned about 15 of the company's most powerful shareholders for a breakfast meeting inside Sears' palatial dining room. It started out friendly

Insiders say thousands of jobs may have to go to get payroll costs in line—and 14 regional offices will be shuttered

enough. But when Brennan and Bozic launched into their usual upbeat appraisal of the company's plans, the investors lit into them. Citing Sears' pitiful stock performance, they virtually called for Brennan's job. "We told him: 'Somebody could raise \$25 billion and easily take you guys out tomorrow,'" recalls participant Russell Thompson, a money manager with Waddell & Reed Inc.

BOLD STEP. One executive says that while Brennan had endured press criticism for years, never had anyone lashed out at him like that to his face. "He was insulted," the executive says. Although Brennan believed his optimism was justified, two months later Sears reported a disastrous first quarter, and by summer Brennan told his managers: "We've got to do something. We've got to stop just thinking about it."

In July, Sears took a bold step. Management decided to place brand-name appliances, such as GE ranges and Amana refrigerators, alongside the company's homegrown Kenmore brand. Kenmore had for years been Sears' bread and butter—a market leader that provided the sales force with commissions bigger than those they would receive from branded products. Sears was losing customers who wanted other brands to chains such as Highland Superstores Inc. and Circuit City Stores Inc. So the company set up a new appliance department for its stores called "Brand Central" and promised to expand it nationwide within two years.

The move mirrored an approach pioneered successfully by Bernie Brennan at Montgomery Ward: creating within the stores "superstores" that more closely resembled the specialty outlets. The retail industry applauded Sears' moves. But when Kohlberg Kravis Roberts & Co. made its stunning \$20.6 billion bid for RJR-Nabisco Inc., suddenly all that mattered was Sears' lagging stock price. Wall Street started churning out breakup analyses for Sears, some as high as \$90 a share. When rumors of a Perelman takeover bid pushed up Sears' stock price 40%, to a high of 46 on Oct. 26, Brennan promptly ordered up restructuring scenarios and called an emergency board meeting in Chicago.

With portraits of every Sears chairman since company founder Richard W. Sears staring down on them, the board mullied all the options—including the sale of each of Sears' businesses. Finally, Brennan opted for a 10% stock buyback and the sale of the Allstate and Coldwell Banker commercial units, essentially conceding that they did not fit Sears' consumer focus. A more difficult decision was the one to sell the Sears Tower and then lease it back. The \$800

illion to \$1 billion raised will be used for the stock buyback. Says longtime director Norma Pace: "He hated to see the tower go. We all felt like we were selling our mother."

By calming the volume in Sears' stock, however, the moves bought Brennan time to implement a retail strategy that had been percolating within the tower for years. The goal: to transform Sears from a sprawling general merchandiser into a store featuring a stable of closely controlled superstores such as Brand Central. Create snazzy, upbeat "environments" for six carefully picked departments. Add the best-known brand names, and sell the merchandise at everyday low prices instead of relying on Sears' timeworn practice of wooing customers with a special sale in a different department every week.

Brennan will outline a few Sears at the upcoming New Beginning meetings. Ultimately, each Sears store will contain six individual mega-departments. Each of those will be run from headquarters like a separate chain, eliminating the imprecise storewide accounting systems. A Brand Central salesman will be less accountable to his store manager than to the Brand Central organization in Chicago. The result: Sears should be able to move faster against the competition because each superstore can chase its own set of competitors.

Coherent the strategy is. But where has it been during a decade of decline? The biggest stumbling block: bureaucratic infighting. Setting up Brand Central was just the turf battle. Another broke out during development of a new store format for urban markets. The idea: Intercept city dwellers unlikely to travel out to Sears' regional mall locations. Originally, the stores were to showcase Sears' upgraded apparel lines and other soft goods. But managers of the power tool, appliance, and other hardgoods lines insisted on crashing the party and were eventually included, delaying the implementation. "They broke out in a cold sweat," says an outside consultant who worked on the project.

HARSH CUTS. Associates say the most trying aspect of the overhaul for Brennan, however, has been eliminating jobs to cut costs. It has meant violating Sears' unwritten promise: If you worked hard enough, the company would watch over you for a lifetime. Brennan has had

to push out people he'd worked with for years. But until external factors forced his hand, he had tried to do it slowly. Says Roderick M. Hills, formerly chairman of Sears World Trade: "Of course it's difficult for him. But he's enough of a professional to know that [purging the bureaucracy] is the right thing to do."

Sears won't say whether the relocation and upcoming job reorganization will substantially accelerate the pace of layoffs. But insiders say thousands of jobs still have to go to get payroll costs in line. At headquarters, many will be lost in the move. And in July, when the Sears organizational chart is reworked, hundreds more will disappear in the field. Besides the changes inside the stores, 14 regional offices will be shut-

quarter] growth came at our expense. With their reputation and size, you have to take these guys seriously." But Sears' efforts to rework its structure have created tremendous internal turmoil. Sources say buyers are preoccupied with who will lose their jobs. Says one former buyer who still consults for Sears: "It's very difficult to carry on a business conversation down there." That's rough, given that general consumer spending appears to be softening. And since 60% of Sears' sales are in home products, the housing slump stings, too. As a result, Sears' earnings could hit the skids before Brennan's new order takes hold. "They face a hellish couple of years," says one rival retailing executive.

If all his moves work, Brennan has a



A NEW YORK CITY STORE: THE SWITCH TO EVERYDAY LOW PRICING FROM SPECIAL SALES BOOSTED REVENUES

tered, shaving some of the most coveted jobs in the field organization. Insiders say a typical regional vice-president pulls down about \$150,000 a year.

While retail experts roundly applaud Sears' newfound chutzpah, the risks are numerous. Everyday low pricing will save money on sales promotions and inventory handling. But it will squeeze margins and make cutting Sears' high costs a much more pressing issue. Sure, the initial hoopla helped boost Sears' sales by 12% in the first quarter. And Sears did lower costs as a percentage of sales for the first time in at least five years. Yet it has a long way to go: Pre-tax profit margins for Sears Merchandise Group in 1988 were about one-third those at Wal-Mart and J.C. Penney Co.

The new Sears is having an impact. Says Ira Mondry, Highland's executive vice-president: "Some of their [first-

shot at reversing the merchant's decade-long slide in market share. Instead of managing a fallen giant, he can return Sears to respectability and give shareholders a better return on investment. The question is, how much of the customer trust and loyalty built up over decades can be regained? That hit home at Sears' annual meeting this year. A shareholder scolded management at length for squandering its hold over American consumers. "You lost me a long time ago," said the testy investor. "And you lost the focus of Middle America 10 or 15 years ago."

Brennan replied: "Give us a try. We want you back." And, as Brennan has shown, he's willing to challenge a lifetime of conventional merchandising wisdom to do it.

By Brian Bremner in Chicago and Michael O'Neal in New York

THE PAYOFF FROM TEAMWORK

THE GAINS IN QUALITY ARE SUBSTANTIAL—SO WHY ISN'T IT SPREADING FASTER?

What the company wants is for us to work like the Japanese. Everybody go out and do jumping jacks in the morning and kiss each other when they go home at night. You work as a team, rat on each other, and lose control of your destiny. That's not going to work in this country.

—John Brodie, President
United Paperworkers Local 448
Chester, Pa.

Call it employee involvement (EI) or worker participation or labor-management "jointness," as it is now known in the auto industry. Whatever the term, the concept is clearly troubling for many Americans. At one and the same time, it promises workers autonomy over their jobs but also threatens their old ways of working. It gives managers a powerful tool to improve productivity and quality but could undermine their control. EI may be American indus-

try's best hope of competing with the Japanese and Europeans, as well as low-wage, Third World producers. Yet for years, timid U.S. companies have merely sloshed a thin coating of EI across an aging industrial base.

But now, there are signs that real employee involvement is sinking into the core of Corporate America. While angry union officers such as the Paperworkers' Brodie still rail against participation, more and more workers and la-



for leaders are willing to risk EI in hopes of making their employers more competitive—and their jobs more secure. This message came across strongly at the recent United Auto Workers convention in Anaheim, Calif. In one of the most raucous debates in UAW history, critics made the rafters ring with charges that "pointiness" consisted of little more than "co-optation" and a new form of the age-old "speedup." But delegates favoring cooperation overwhelmingly voted down the dissidents. And when the meeting ended on June 23, the UAW's leaders were more strongly committed than ever to EI programs at the Big Three auto makers (page 60).

The UAW's approval will make it easier for other unions to give more than lip service to EI. And there are comparable changes in management attitudes. So what had been a slow evolution of EI is turning into a revolution in the way work is organized and managed in the U.S. Companies that only a few years ago disdained participation are rushing to set up so-called self-managing work teams, the most advanced stage of EI (table). The team concept is spreading rapidly in industries such as autos, aero-

space, electrical equipment, electronics, food processing, paper, steel, and even financial services.

Although work teams differ from company to company, they typically consist of 5 to 12 multiskilled workers who rotate jobs and produce an entire product or service with only minimal supervision. Adopting the team approach is no

Some militant unionists see 'teamwork' as a new form of the age-old 'speedup'

small matter; it means wiping out tiers of managers and tearing down bureaucratic barriers between departments. Yet companies are willing to undertake such radical changes to gain workers' knowledge and commitment—along with productivity gains that exceed 30% in some cases.

Despite these recent signs of EI's growing acceptance, many workplace ex-

perts believe it is not spreading fast enough. "Participation is growing, but at an alarmingly slow rate considering the quality and productivity payouts," says Jerome M. Rosow, president of the Work in America Institute, a nonprofit research group that advocates employee involvement. He and others believe that the federal government now should actively promote EI. "We'll see some incremental growth in participation but not widespread diffusion unless it gets reinforced in public policy," says Thomas A. Kochan, a professor at Massachusetts Institute of Technology who has studied the EI movement for more than 10 years.

Resistance to further EI growth remains widespread. Many managers won't allow participation because it entails sharing power with employees. Low-level supervisors, whose interests often are ignored in the EI process, tend to fight it. For participation to become a way of life in industry, it also must overcome Wall Street's insistence on short-term results. Managers who fear hostile takeovers think twice about investing in human-capital programs such as the continual training that's needed to help workers improve their technical and so-

THE EVOLUTION OF WORKER PARTICIPATION IN THE U.S.

PROBLEM-SOLVING TEAMS

Structure and function

■ Consist of 5 to 12 volunteers, hourly and salaried, drawn from different areas of a department. Meet one to two hours a week to discuss ways of improving quality, efficiency, and work environment. No power to implement ideas

Results

■ Can reduce costs and improve product quality. But do not organize work more efficiently or force managers to adopt a participatory style. Tend to fade away after a few years

When introduced

■ Small-scale efforts in 1920s and 1930s. Widespread adoption in late 1970s based on Japanese Quality Circles

SPECIAL-PURPOSE TEAMS

■ Duties may include designing and introducing work reforms and new technology, meeting with suppliers and customers, linking separate functions. In union shops, labor and management collaborate on operational decisions at all levels

■ Involve workers and union representatives in decisions at ever-higher levels, creating atmosphere for quality and productivity improvements. Create a foundation for self-managing work teams

■ Early-to-middle 1980s, growing out of problem-solving approach. Still spreading, especially in union sectors

SELF-MANAGING TEAMS

■ Usually 5 to 15 employees who produce an entire product instead of subunits. Members learn all tasks and rotate from job to job. Teams take over managerial duties, including work and vacation scheduling, ordering materials, etc.

■ Can increase productivity 30% or more and substantially raise quality. Fundamentally change how work is organized, giving employees control over their jobs. Create flatter organization by eliminating supervisors

■ Used by a few companies in 1960s and 1970s. Began rapid spread in mid-to-late 1980s, and appear to be wave of future

cial skills. "Very few companies understand how deep the change must be, and really go after it," says W. Patrick Dolan, a St. Louis consultant who works with unions and employers on EI programs. "Training is always a peripheral, secondary consideration, and when push comes to shove, it keeps sliding."

QUALITY CIRCLES. Although unions are declining in power, they still represent 24% of workers in the crucial manufacturing sector. Without their assent and help, instituting work reforms to boost efficiency simply is not possible. But many union leaders, veterans of a decade when management fought hard to avoid, oust, and beat down organized labor, are suspicious. Militant unionists see management proposals for work teams as union-busting ploys—and sometimes they are. Even union presidents who strongly advocate EI, such as Lynn R. Williams of the United Steelworkers, can't force their philosophy on local officers. At Inland Steel Co., for example, Mike Mezo, president of the 10,000-member USW Local 1010, flatly declares: "We don't think there's any benefit to cooperation. No way will we ever take part."

Despite this opposition, a broad array of employers practice some form of participation. Government employees are involved in EI efforts at many agencies, including the U.S. Postal Service and the New York City Sanitation Dept. Workers at the Philadelphia Zoo suggest ways to draw more visitors, and they get bonuses when attendance rises. A 1987 survey by the U.S. General Accounting Office found that 70% of 476 large companies had installed the most common EI form, problem-solving committees usually known as quality circles (QCs). But the coverage was spotty. At 70% of the companies studied, less than half of the work force was involved in EI activities.

A VOICE. But that constituted some progress over the 1970s, when the participation movement clung precariously to life at a few dozen leading-edge companies. Starting about 10 years ago, the trumpeting of Japan's success with participation induced hundreds of U.S. companies to copy the Japanese approach in setting up QCs. Recommendations made by quality circles can improve quality and cut costs. But QCs are merely "off-line" discussion groups and don't reorganize work or enlarge the role of workers in the production process.

Since the mid-1980s, however, participatory methods have advanced far beyond mere problem-solving techniques copied from the Japanese. It's at this point that American practices are beginning to diverge from those used in Japan. Work-reform experts say this is necessary to avoid imposing a foreign work culture on the U.S. workplace.

In American-style teamwork, for example, workers not only gain a more direct voice in shop-floor operations—as in Japan. They also take over managerial duties, such as work and vacation scheduling, ordering materials, and hiring new members. But there is no law that says this must happen, and plenty

of U.S. companies install teams without corresponding participation. Increasingly, too, American union officials demand a consulting or decision-making role on plantwide issues such as production scheduling, capital expenditures, and introduction of new technology. After the A. O. Smith Corp. automotive parts plant in Milwaukee converted last year to the team approach, one proud worker, Albert Porter, exaggerated only slightly when he boasted: "They turned over control of the shops to us."

In fact, the EI movement has unleashed enormous energy and creativity stored up by the Albert Porters who like the idea of using their brains, as well as their bodies, on the job. It increases their feelings of dignity and self-worth. Opponents of cooperation may get more press, but pro-EI workers constitute a much larger portion of most work forces. Studies show that in many plants where participatory activities are not mandatory an average of about 25% of the workers volunteer to join problem-solving teams. Another 70% are passive supporters, while only 5% remain opposed.

This points up one of the ironies of the EI movement. Although unions introduced the idea of "industrial democracy" early in this century, it is now management that is pushing employees in both union and non-union plants to accept more involvement—and not to make workers happy but to improve the company's bottom line.

ABOUT-FACE. If the U.S. is to become a world-class manufacturing nation, companies must be able to produce in small lots, customizing products to increasing demands. This calls for flexible

work practices and workers who are willing to move from job to job. Teamwork makes this possible because the employees usually are "cross-trained" to perform all tasks. They can fill in for absent co-workers and respond quickly to changes in models and production runs. A General Electric Co. plant in Salisbury, N.C., typically changes product models a dozen times a day by using a team system to produce lighting panels. This plant has increased productivity by a remarkable 250% compared with GE plants that produced the same products in 1985. It combines teamwork with "flexible automation" and other computerized systems.

Salisbury's success convinced even GE's typically hardheaded managers that participation can boost profits. As re-



TEAMS AT THIS GE PLANT HAVE BOOSTED PRODUCTIVITY 250%

SOME BIG COMPANIES THAT USE WORK TEAMS

Company	When started
BOEING	1987
CATERPILLAR	1986
CHAMPION INTERNATIONAL	1985
CUMMINS ENGINE	1973
DIGITAL EQUIPMENT	1982
FORD	1982
GENERAL ELECTRIC	1985
GENERAL MOTORS	1975
LTV STEEL	1985
PROCTER & GAMBLE	1962
A. O. SMITH	1987
TEKTRONIX	1983

DATA: WORK IN AMERICA INSTITUTE, BW

ntly as the early 1980s, when many companies succumbed to the quality-circle fad, GE hung on to its traditional management style. But in the past few years, GE's top management has done an about-face. Of its 120,000 U.S. employees, nearly 20% now work under the team concept. GE doesn't dictate what human-resource practices each plant must adopt, but it encourages innovation. The corporate goal is to have 35% of the work force in teams by the end of 1989. "We're trying radically to reduce the work cycle needed to produce a product," says Robert Erskine, manager of production resources. "When you combine automation with new systems and work teams, you get a 40% to 50% improvement in productivity."

But teamwork plants are by no means workplace Utopias. For two years after GE's Salisbury plant converted to team-based production in late 1985, it had a 14% turnover rate; many workers quit rather than accept more responsibility and face constant movement from job to job. "It's not all wonderful stuff," warns plant manager Roger Gasaway. "But we've found that when you treat people like adults, 95% act like adults." And teamwork can provide exceptional opportunities for self-development. In Salisbury's pay-for-knowledge plan, employees can raise their salaries by completing company-funded courses in technical, economic, and behavioral subjects.

The team idea is mushrooming throughout manufacturing (table, page

58). It's also gaining a foothold at banks, insurance firms, and other companies specializing in financial services. In Morristown, N.J., for example, AT&T Credit Corp. uses teams of employees to process applications from companies that want to lease computer equipment (box). But teamwork is rare in the service industries, which account for more than 70% of employment in the U.S. In other words, the most productive form of participation hasn't spread to many millions of employees.

HUMAN FACTOR. At the same time, economists are beginning to see marked evidence of EI's impact on efficiency. In a newly released report for the Brookings Institution, Steve Levine and Laura D'Andrea Tyson of the University of

BENEFITS FOR THE BACK OFFICE, TOO

It's not only Rust Belt America that needs to overhaul the way work is organized. Millions of clerical employees toil in the back offices of financial companies, processing applications, claims, and customer accounts on what amount to electronic assembly lines. The jobs are dull and repetitive and efficiency gains minuscule—when they come at all.

That was the case with AT&T Credit Corp. (ATTCC) when it opened shop in 1985 as a newly created subsidiary of

American Telephone & Telegraph Co. Based in Morristown, N.J., ATTCC provides financing for customers who lease equipment from AT&T and other companies. A bank initially retained by ATTCC to process lease applications couldn't keep up with the volume of new business.

ATTCC President Thomas Wajnert saw that the fault lay in the bank's method of dividing labor into narrow tasks and organizing work by function. One department handled applications and checked the customer's credit standing, a second drew up contracts, and a third collected payments. So no one person or group had responsibility for providing all service to a customer. "The employees had no sense of how their jobs contributed to the final solution for the customer," Wajnert says.

UNEXPECTED BONUS. Wajnert decided to hire his own employees and give them "ownership and accountability." His first concern was to increase efficiency, not to provide more rewarding

jobs. But in the end, he did both.

In 1986, ATTCC set up 11 teams of 10 to 15 newly hired workers in a high-volume division serving small businesses. The three major lease-processing functions were combined in each team. No longer were calls from customers shunted from department to department. The company also divided its national staff of field agents into seven regions and assigned two or three teams to handle business from each region. That way, the same teams al-

supervisors are seven regional managers who advise the team members, rather than give orders. The result: The teams process up to 800 lease applications a day vs. 400 under the old system. Instead of taking several days to give a final yes or no, the teams do it in 24 to 48 hours. As a result, ATTCC is growing at a 40%-to-50% compound annual rate, Wajnert says.

EXTRA CASH. The teams also have economic incentives for providing good service. A bonus plan tied to each team's costs and profits can produce extra cash. The employees, most of whom are young college graduates, can add \$1,500 a year to average salaries of \$28,000, and pay rises as employees learn new skills. "It's a phenomenal learning opportunity," says 24-year-old team member Michael LoCastro.

But LoCastro and others complain that promotions are rare because there are few managerial positions. And everyone comes under intense pressure from co-workers to produce more. The annual turnover rate is high: Some 20% of ATTCC employees either quit or transfer to other parts of AT&T. Still, the team experiment has been so successful that ATTCC is involving employees in planning to extend the concept throughout the company. "They will probably come up with as good an organizational design as management could," Wajnert says, "and it will work a lot better because the employees will take ownership for it."

By John Hoerr in Morristown, N.J.



ATTCC'S WAJNERT: USING MANAGERS MOSTLY FOR ADVICE, NOT CONSENT

ways worked with the same sales staff, establishing a personal relationship with them and their customers. Above all, team members took responsibility for solving customers' problems. ATTCC's new slogan: "Whoever gets the call owns the problem."

The teams largely manage themselves. Members make most decisions on how to deal with customers, schedule their own time off, reassign work when people are absent, and interview prospective new employees. The only

California reviewed all major studies of employee involvement. "If you sum it all up, meaningful participation has a positive effect on productivity. It's almost never negative or neutral," Tyson says. Moreover, studies of employee-owned companies show that stock ownership alone doesn't motivate employees to work harder, while ownership combined with participation does.

Indeed, the "human factor" emerges as the critical element in efforts to make auto plants more competitive, according to a study of 65 plants around the world by the International Motor Vehicle Program at MIT. Plants that combined computer-based technology with advanced work innovations outperformed all others. Automated plants with no work reforms were the poorest performers. But teams are "no panacea unless they are integrated in a whole new approach to the production system," says John Paul MacDuffie, an MIT research associate.

This growing body of evidence suggests strongly that the old system of assumptions, beliefs, and practices relating to work has been disproved as a pattern for modern factory and office jobs. Based on principles developed by Frederick W. Taylor, the old paradigm involved the division of production work into simple, repetitive tasks performed by unskilled workers under close supervisory control.

LABOR WARFARE. In the new paradigm, workers will be multiskilled and to some degree will manage themselves through teamwork. Management will train workers, share business information with them, and develop specialized "gainsharing"—or bonus—plans to allow workers to cash in on the gains of increased productivity. Jobs will be protected by long-term security plans.

American companies are now discovering what the Japanese learned long ago: that people—not technology alone or

marketing ploys—are the keys to success in global competition. Indeed, American workers can be just as productive as Japanese workers. This has been demonstrated conclusively by the success of Honda, Toyota, and Nissan using American labor in U.S. plants. The keys to Japanese competitive superiority are their management and production systems, not some unique feature in Japan's group-oriented culture.

But the growth of participation in Japan wasn't snarled by the kind of implacable labor-management warfare that exists in many U.S. industries. Moreover, the "no cooperation" slogan of die-hard EI opponents is understandable to foreign labor experts such as Haruo Shimada, an economics professor at Keio University in Tokyo who has studied Japanese and American labor systems. "If American unions give in to American management, they run the risk of being destroyed because management always

FOR AUTO WORKERS, IT'S TEAM SPIRIT VS. SUSPICION

After years of wavering on the issue, leaders of the United Auto Workers have now dispelled all doubts about their commitment to employee involvement (EI). In a showdown with EI critics at the UAW's convention in late June, President Owen F. Bieber rallied a large majority of the 2,100 delegates to the cause of labor-management "jointness," as it's called in the auto industry, and defeated the dissidents. Most important, he put himself squarely on the line in support of joint programs to help the Big Three auto makers in their do-or-die fight against Japanese competitors.

Bieber and other UAW officers may now move more confidently in pressing for greater worker involvement on the shop floor. That's good news for General Motors, Ford Motor, and Chrysler. They contend that cooperation is necessary to match the quality and productivity of Japanese producers, which threaten to glut the market with vehicles made in their new North American plants. U.S. companies want to convert conventional plants to the team concept—a more productive way of organizing work that calls for dramatic changes in job classifications and seniority rights.

Although the UAW has been involved in EI activities since 1973, the leadership often has been divided on how strongly the concept should be pushed.

Ironically, the complaints of dissidents forced Bieber—who has been hesitant on the issue—to take a strong stand. In a convention speech, he declared: "I think those who say that workers don't want change in the workplace—who insist that the old ways were always the best ways—are insulting the intelligence of UAW members."

But translating convention-floor rhetoric into shop-floor reality will be tough. Recalcitrant managers often undermine the EI process, and the sharp slowdown in car sales is threatening the job security on which cooperation is based. As a result, many workers are afraid of changes in traditional work practices. A dissident group, which dubs itself "New Directions," tapped this discontent to win the support of an estimated 10% of the delegates at the Anaheim (Calif.) convention. Even EI supporters concede that the dissidents cannot be easily dismissed. They point

to the victories of New Directions delegates at major plants with team systems, including several at General Motors Corp.

But GM isn't the only company struggling with work teams. In the first union election at a new Flat Rock (Mich.) plant owned by Mazda Motor Manufacturing (USA) Corp., workers



'When we started mass-producing cars, there was no such thing as teamwork. All of a sudden, you were just another factory rat'

DEBBIE S. CORNELIUS

Mazda, Flat Rock, Mich.

wants to destroy them," he says. Japanese unions aren't threatened this way, he says.

For these reasons, militant unionists contend that management can never be trusted. In using work teams, charges on G. Douglas, president of United Auto Workers Local 594 in Pontiac, Mich., "the company has a hidden agenda to erode the collective bargaining system, to lessen resistance to changes that are more favorable to the company than they are to the employees."

And the militants' position seems validated by hardball company tactics to force acceptance of EI. For example, UAW members complain that General Motors Corp. has threatened to shut down plants unless the union accepts the team concept. In the pulp and paper industry, the United Paperworkers International Union at Mobile, Ala., and Chester, Pa., waged long—and losing—strikes in 1986 and 1987 against demands by Scott Paper Co. for contract changes that would allow establishment

of work teams. The UPW's Brodie contends that the company demanded the new provision without explaining why. At both Chester and Mobile, the union caved in when Scott threatened to hire permanent replacements. Scott won these battles, but at the cost of em-

American unions say real participation means gaining a voice in higher-level decisions

bittering the workers. Perhaps belatedly understanding this, the company hasn't tried to force the locals to accept teamwork.

Brodie's criticism of teamwork as a Japanese import is echoed by other unionists who claim that management is really trying to "Japanize" the U.S. in-

dustrial-relations system. Actually, the work-team concept was developed and used in Britain, Sweden, and the U.S. long before Japanese auto makers introduced their own, highly efficient model on a wide scale. Now that Japanese companies operate many plants in the U.S., American management and labor are beginning to see that worker participation means quite different things in the two countries. To American unionists, real participation means not only problem-solving on the shop floor but also gaining a voice in higher-level decisions.

But that is precisely what the Japanese-style team concept does not do. The "team concept is not intended to increase workers' autonomy but to help them find out the problems in the production line so that no defective goods will be produced," says Keio University's Shimada. "In the U.S.," he adds, "workers tend to take participation as having a voice in all kinds of things that in Japan are determined by management and engineers." The Japanese system

lumped UAW-appointed leaders in favor of opponents who promised to challenge management abuses of the team concept. Debbie S. Cornelius, a former receptionist who is now an assembly line worker and team leader at Mazda, says initial training sessions prepared workers for unprecedented involvement in shop-floor decisions. "But when we started mass-producing cars, there was no such thing as teamwork," he says. "All of a sudden, you were just another factory rat."

Cornelius says that workers were pressured to keep the assembly line

moving even though they were told they had the right to stop production to solve quality problems. Mazda officials blame typical startup glitches and, sometimes, poor communication.

Many believe that the troubles at Mazda and elsewhere can be traced to poor management. "This is not a union problem. It's a management problem," says UAW Director Bruce A. Lee. He helped to establish successful Japanese-style teams at GM's carmaking venture with Toyota Motor Corp. in Fremont, Calif. Managers "have to bite that bullet to give up power," he says.

After five years of experience with teams at GM's Orion Township (Mich.) plant, Robert D. Wilson—a New Directions supporter—is still skeptical about the concept. "I'd like to have input into my job," he says, "but when that work-group manager said, 'I've got 51% of the decision-making,' that was the end of that."

At other plants, however, participation activists say cooperation is working well. "We're finding that jointness is the best way to do business," says Michael S. Knox, who works at a GM plant in Flint, Mich. "I wish we could have started doing this a

long time ago." Knox was named by the chairman of Local 326 to a new job as "hourly adviser" to the superintendent of a 150-worker department that makes door hinges. "We make all decisions jointly," he says, including scheduling production, choosing suppliers, and analyzing the competition.

SAVING JOBS? Nonetheless, UAW dissidents see the team concept as inherently flawed. Their central resolution in Anaheim—which was overwhelmingly defeated—argued that the team concept pits worker against worker and eliminates jobs, all in the name of "competitiveness." Local unions often agree to such changes under the threat of plant closings, they charged, and are pressured to keep the joint systems by an army of union appointees.

But UAW leaders point to the benefits that flow from cooperation. The union's most dramatic victory is the slowdown of GM's efforts to buy more of its components from non-GM plants. Indeed, the auto maker credits joint programs with saving some 8,000 jobs so far in its long-threatened components operations.

Although they were defeated at the convention, New Directions leaders promise to continue the fight against jointness. And a recent union commission discovered that anxieties about joint programs are widespread, even though only a third of UAW members in the auto sector are involved in some form of team system. Clearly, Bieber and the auto makers have a long way to go before jointness becomes a reality in the only place that counts.

By Wendy Zellner in Anaheim, Calif.



**'We're finding that jointness
is the best way to do business.
I wish we could have started
doing this a long time ago'**

MICHAEL S. KNOX
—GM, Flint, Mich.

seems to work well at their auto plants in the U.S., but most of them employ nonunion workers with few expectations about sharing power with managers.

In union auto plants, however, the method of organizing work on an assembly line is a burning issue. The UAW seems to prefer the approach that is evolving in Sweden. At two Volvo plants, teams assemble large units of a car—indeed, an entire car in the case of Volvo's new plant at Uddevalla—without much supervision at all. Some GM plants, however, are adopting the Japanese method used at New United Motors Manufacturing Inc. (NUMMI), the joint venture between GM and Toyota Motor Corp. in Fremont, Calif. Japanese-style teams work on conventionally organized lines, performing minutely subdivided tasks. Team members have a lot of discretion in improving quality, but they work under first-line supervisors.

TRUST. American-style teams force significant changes in work practices, and unions are still struggling to find a new role on the shop floor in teamwork plants. With only one or two classifications for production jobs, employees have to learn a wide variety of tasks and move with the flow of work. They typically can't use their seniority, the bedrock of American unionism, to bid for better or easier jobs. In some nonunion plants, team members are expected to rate each other's performance and sometimes even fire shirkers—though most unions refuse to let their members get involved in disciplinary decisions. And teamwork also can reduce the influence of the union on traditional matters such as seniority and the grievance procedure.

"There's no question managers in Japan can get away with doing some things, because of a more compliant labor force, that would not be accepted in America," says Robert E. Cole, a U.S. authority on Japanese labor practices at the University of Michigan. But American unions can protect their members by aggressively monitoring EI programs. At A. O. Smith in Milwaukee, the president of the A. O. Smith Steelworkers Union, Paul Blackman, insisted on setting up work teams so that his members could have more influence in operations. Moreover, Blackman has a voice in all major

decisions made by company officers. But it is hard to write this kind of participation into a contract, and U.S. unionists are wary of giving up one kind of power in the mere hope of gaining another.

NATIONAL STRATEGY. Cole points out an important reason why employee involvement has spread more quickly in Japan and Sweden than in the U.S. In both countries, national organizations that promoted participation had the respect and support of top corporate manage-

Labor-Management Relations & Cooperative Programs gathers and disseminates information about employee involvement. But most of its \$6 million annual budget must be spent on other programs. Although Sweden's work force is less than a tenth the size of America's, the government-financed Center for Working Life spends \$6.5 million a year on programs "to help democratize working life."

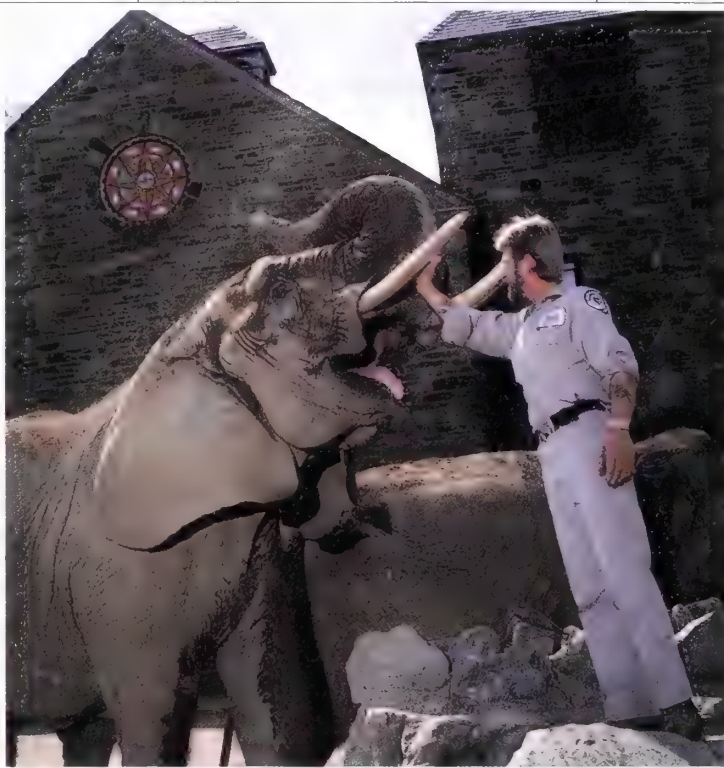
In the U.S., states such as Massachusetts, Ohio, New York, Pennsylvania, and Indiana also promote EI and provide funds and technical help to companies and unions. But as helpful as these programs are, says MIT's Kochan, they can't substitute for the central role that the federal government could play in building networks of professionals across the nation. What is needed, Kochan adds, is "a statement that the government recognizes the centrality of these innovations to its long-term economic strategy." The government could encourage participation—just as it has capital investment—through a tax-credit system, Kochan says.

ALIENATED? Richard E. Walton, a top EI theorist at Harvard University, says participation should be at the heart of a national competitiveness strategy. This means investing in

human capital, as well as technology, to boost productivity. "People must see the interrelationship between social performance and economic performance," Walton says. "To have world-class quality and costs and the ability to assimilate new technology, we must have the world's best ability to develop human capabilities."

The U.S. is moving in that direction. Participation has permanently altered the old industrial relations system, based on the idea that efficient mass-production inevitably breeds alienated workers who must be bought off with high pay. The EI movement puts the lie to that assumption. When jobs are challenging, workers are committed and perform superbly. But participation will remain only a beachhead in hostile territory—unless management, labor, and government join forces to foster the revolution in the way Americans work.

By John Hoerr in New York, with bureau reports



PHILADELPHIA ZOO WORKERS GET BONUSES WHEN SUGGESTIONS SUCCEED

ment. The Japanese Union of Scientists & Engineers not only advocated the quality-circle approach but actually helped companies install QCs. In Sweden, the Employers' Federation acted as a consultant for companies introducing participation. And the powerful Swedish labor movement, which is closely allied with the dominant Social Democratic Labor Party, has pushed participation as a means of gaining a voice in corporate decisions.

No comparable organizations exist in the U.S. Nor is there a large federal presence. The Labor Dept.'s Bureau of

**In some nonunion plants,
team members rate each
other's performance
—and even fire shirkers**

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WORK & FAMILY

AMERICA'S CHILD-CARE CRISIS: THE FIRST TINY STEPS TOWARD SOLUTIONS

Government and corporate programs start chipping away at this costly problem

These are trying times at the Creative Learning & Child Care Center. If owner Donna C. Krause raises her weekly \$65 fee, most parents in her moderate-income Baltimore neighborhood won't be able to afford her service. But at that price, she can hire only 10 people to care for 80 preschool children, and wages are so low that workers stay just a few months. "The first question that a child asks a new person is: 'Are you staying, or are you leaving?'" Krause laments. "It's devastating."

Some 57% of the mothers of American preschoolers work outside the home. And their kids are taken care of by someone, somehow. But fully half of all parents of young children are unhappy with the quality of the care they are buying, according to a recent Harris poll.

Krause does the best she can within the limits. But her staffing dilemma is at the heart of the problem: Top-notch child care is so labor-intensive that most parents can't afford it. "Parents with the youngest children are at

the lowest end of their earning capacity," says Helen Blank, a child-care specialist at the Children's Defense Fund. "Yet we're expecting them to support the whole system."

TOUGHER STANDARDS. With many parents at an impasse, child care has become a front-burner problem for employers and politicians. On June 23, the Senate approved the Act for Better Child Care Services (ABC)—co-sponsored by Christopher J. Dodd (D-Conn.), a liberal, and Orrin Hatch (R-Utah), a conservative who broke with Republicans to support the legislation. ABC would pro-

vide \$1.75 billion to states to subsidize child care for low-income families and impose new quality standards as well (table). Trying to attract Republicans, Democrats added \$3.25 billion in tax credits for families. The House is working on its own version of the bill.

ABC would require states to develop their own health and safety standards as a condition of funding. Additional money would go to those meeting model federal standards still to be determined. Proponents say stricter standards are sorely needed. For instance, more than half the states allow one adult to watch more than four infants.

But the White House and congressional Republicans fear that tougher standards would constrict supply and push the cost of child care out of reach for many more families. Many kids are cared for by neighbors, largely unlicensed (chart, page 68). ABC supporters hope the incentive of subsidies will bring more providers under the licensing umbrella. But Robert Rector, a policy analyst at the con-

THE SENATE'S CHILD-CARE BILL

► **SUBSIDIES** \$1.75 billion would go to the states, to be used for grants to day-care providers or for vouchers for parents to purchase care. After serving low-income families, a state may subsidize parents earning less than its median income

► **TAX CREDITS** The dependent-care credit would be expanded and made refundable for those paying too little in taxes to use it. The earned-income tax credit for families with children under age 4 would be expanded. A refundable tax credit would help low-income parents pay for health insurance. Cost: \$3.25 billion

► **STANDARDS** States would be required to set standards for training, teacher-child ratios, group size, health, and safety in centers and family day-care settings. Care by relatives would be exempt

ervative Heritage Foundation, disagrees. "Family day care will never flourish under a state bureaucracy," he says. President Bush favors larger tax credits to all families, including those with nonworking mothers.

Love it or hate it, few believe that ABC will solve the nation's day-care problem. Edward Zigler, director of Yale University's Bush Center in Child Development and Social Policy, estimates that total current spending of \$20 billion on day care could have to rise to more than \$70 billion to provide children with access to

stimulating programs, well-paid teachers, and safe surroundings. "It's the difference between providing an experience where a child learns throughout the day or is left to vegetate," argues Barbara A. Willer at the National Association for the Education of Young Children, a group of early childhood professionals.

REVOLVING DOOR. Educators are especially worried about the turnover that plagues America's day-care scene. Last year, nearly 40% of all employees in centers quit, says the Labor Dept. "It makes no difference to the quality of a

hamburger if there's high turnover in McDonald's, but a baby needs to feel secure," says Marcy Whitebook, executive director at the Child Care Employee Project, a professional group.

The reason for the revolving door: money. In 1988, the average child-care worker earned only \$187 a week. But many parents would find it hard to finance higher salaries. Although precise data on what families pay is elusive—since so much day care is paid for under the table—the federal government estimates that poor families spend at

WHY DAY CARE IS STILL MOSTLY MOM AND POP

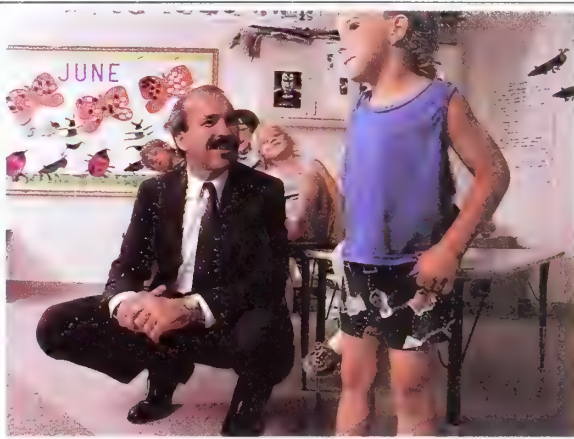
On paper, few industries look as ripe for consolidation and growth as child care. Chains make up only 15% of the nation's 20,000 for-profit facilities. Together, the top five operators run fewer than 2,700. The demographics seem irresistible: 12 million kids under age 6 have working mothers. That figure will approach 15 million by 1995.

But day-care centers don't lend themselves easily to off-site management. Visit Carol L. Rabe to see why. As vice-president for operations at American Family Service Corp. in Cherry Hill, N.J., Rabe reviews budgets and expansion plans and oversees a staff of 155. But when a teacher at one of AFSC's 12 preschools gets sick, Rabe can find herself leading a chorus of *Six Little Ducks* or changing diapers. "Adults can wait. Children can't," she says.

Flexible, hands-on managers are a must in the thin-margin day-care business. Economies of scale are hard to attain. Parents value a provider's personal involvement with their child. So child care will likely remain primarily a local affair run by people who love kids and are comfortable in several roles. In fact, AFSC works at keeping the neighborhood identity of the centers it buys.

"I think you're going to have mom-and-pop child care for a long time," says Richard A. Niglio, a turnaround artist revitalizing Children's Discovery Centers Inc., a California-based chain. In the 1970s, Niglio put Mr. Donut of America Inc. into the black.

DROOLING. Despite such warnings, the paper prospects have some on Wall Street drooling. Last year, venture-capital firm Loperco, de Neuflyze & Co. poured \$2 million into AFSC. Since then it has acquired or opened 12 outlets in southern New Jersey and Pennsylvania and has plans to add 11 more in the Midwest. Prospect Group Inc., New



NIGLIO: CAN HE TURN CHILDREN'S DISCOVERY AROUND?

York investors, started Children's Discovery Centers in 1984—lately upping its commitment to \$16 million with venture cash from Morgan Stanley & Co. and Prudential-Bache Securities Inc. When Kinder-Care Inc., the industry's grandpa, freed its day-care centers from other units, the day-care unit's stock soared (BW—June 12).

Now 20 years old, Kinder-Care grew in a steady, controlled way, reining in costs with low wages and standardization down to the last crayon—an approach criticized by some educators. And the company is adept at buying and developing profitable real estate.

For most operators, though, size

seems to multiply the risks. La Petite Academy Inc., a Kansas City (Mo.) chain, was forced to self-insure and set aside \$1 million last year when its liability coverage was cut. Shareholders sued, claiming that before executives disclosed the cancellation, the father-son team running La Petite sold a chunk of stock. To settle, La Petite will pay shareholders \$1.8 million. Now, it is fighting a civil lawsuit over an alleged sexual assault on a child in Colorado. The stock, once above 22, now trades around 9½.

Such difficulties are extreme.

Insurance coverage is not the problem it was a few years ago, when premiums were twice as high as they are now. But just surviving is tough in a business where margins are thinner than strained apple juice. To keep tuition affordable and still profit, many centers pay minimum wage, then struggle with high turnover. Centers where the owners teach can offer continuity—a marketing advantage.

Given the pressures, expansion can be risky. Children's Discovery Centers had to take a \$6 million write-down in 1987, after a big acquisition in the Southwest soured. So disheartened is Gerber Products Co. with slim returns on its 19-year-old chain that it is closing or selling underperforming sites.

No doubt, some operators will make money and expand as the demand for child care grows. But they may need access to deep pockets. One source: employers and industrial-park developers. Three-year-old Bright Horizons Children's Centers stays solvent because its 17 worksite centers are thus subsidized. But Roger Brown, who heads the Cambridge (Mass.) company, says: "I would urge entrepreneurs who would like to get rich quickly to explore other fields."

By Joseph Weber in Philadelphia

BIG BUSINESS AND SMALL KIDS

Top providers	Number of centers	1988 revenues Millions
KINDER-CARE LEARNING CENTERS	1,234	\$300.1
LA PETITE ACADEMY	700	152.1
CHILDREN'S WORLD LEARNING CENTERS	470	NA
GERBER CHILDREN'S CENTERS	118	NA
CHILDREN'S DISCOVERY CENTERS	81	10.6

NA = not available

DATA: BW

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Social Issues

least 20% of their income on child care.

According to the Children's Defense Fund, the cost of full-time child care averages \$3,000 per year per child. It can be far higher. In Minneapolis, infant day care outside the home ranges from \$3,640 to \$7,800, says Work-Family Directions Inc., a Boston-based child-care consultant. In 1987, 45% of families with children under six years of age earned between \$15,000 and \$40,000. Most single mothers earn less than \$13,000 a year.

But some people don't think the quality crisis is all that serious. The Census Bureau puts average income for households with two full-time earners and preschool kids at \$48,000. Douglas J. Besharov, a scholar at the American Enterprise Institute, says that the ABC bill is trying to create a standard of care that most parents simply aren't willing to pay for. "American families don't necessarily believe that child care is much more than baby-sitting," he says.

Still, complaints about quality are being heard on the corporate front, prompting some employers to help. "We're not doing this because we are good guys," says Harold W. Burlingame, a senior vice-president at American Telephone & Telegraph Co. On May 28, it signed a contract with its workers to provide an array of child-care benefits. "Employees will not be productive if they are stressed because of their children."

Some 200 corporations and 600 hospitals have set up day-care centers near or on their premises. Genentech Inc. opened one an easy 1.5-mile jog from its South San Francisco headquarters last year when it realized that its 1,700-employee work force was having babies at a rate of one a week and that many new mothers had resigned. The company pays about half the center's costs. Parents chip in \$25 a day.

Other companies are trying to increase the number of qualified day-care professionals. New York's Neighborhood Child Care Initiatives Project, with funding from the American Express Foundation, has recruited and trained 400 women to be family day-care providers. Steelcase Inc. in Grand Rapids has recruited some 350 licensed home-based providers since 1979.

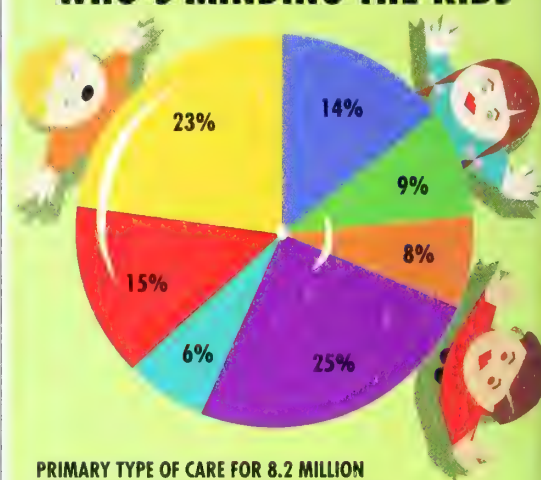
Such efforts are still exceptional. Corporate day-care assistance often means a contract with local services that help employees find care. About 50 compa-

nies provide employees with cash vouchers. Another 2,000 allow workers to set aside pretax dollars for child care.

Some people argue that the piecemeal efforts, though helpful, won't make much of a dent nationally. What's needed, says Yale's Zigler, is a major offensive to coordinate what, for parents, can be a frustrating maze of day care, baby-sitters, and part-time nursery schools.

'EXTENDED DAYS.' The Independence (Mo.) school system is taking a step in that direction. Since September, elementary schools stay open 12 hours a day and year-round to take care of latchkey children. Nationally, nearly a half-million

WHO'S MINDING THE KIDS



PRIMARY TYPE OF CARE FOR 8.2 MILLION PRESCHOOL KIDS WITH WORKING MOTHERS

- CENTER-BASED DAY CARE
- NURSERY OR PRESCHOOL
- MOTHERS CARE FOR CHILD WHILE WORKING
- RELATIVES IN CHILD'S HOME
- NON-RELATIVES IN CHILD'S HOME
- RELATIVES IN CAREGIVER'S HOME
- NON-RELATIVE IN CAREGIVER'S HOME

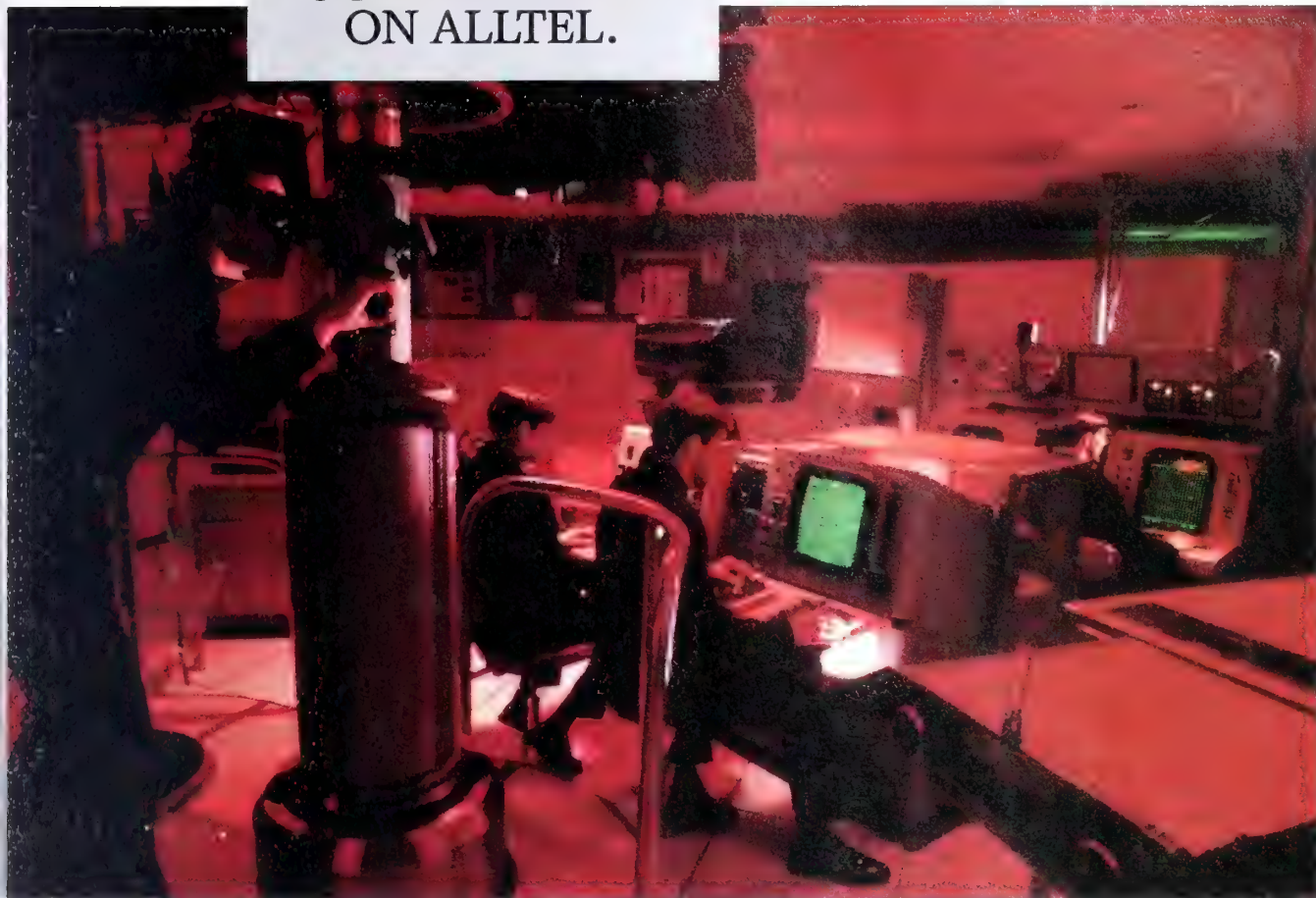
DATA: CENSUS BUREAU

such kids, ages 5 to 14, take care of themselves after school. Independence schools also have all-day programs for three- to five-year-olds. The school system helps parents find private home care for infants and toddlers and offers training to workers tending them. Corporate and public subsidies keep fees for preschoolers at \$45 a week. "Most parents work today, and we think we are providing a good service," says Schools Superintendent Robert L. Henley.

The school-based approach has its critics. Many think schools aren't doing such a great job now. But such efforts could raise the quality of care for many children. Whether it is the community corporation, or government that ultimately takes the lead, solving the quality problem requires a large infusion of cash. Where children are concerned, relying on market forces isn't enough.

By Susan B. Garland in Washington

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Assets	\$2.2 billion
Revenues and Sales	\$1.1 billion
<i>Reported</i>	
Net Income	\$125 million
Earnings Per Share	\$2.91
<i>From Operations*</i>	
Net Income	\$134 million
Earnings Per Share	\$3.13
Dividend Rate	\$1.72
<i>Average Common</i>	
Shares Outstanding	42.3 million
<i>*Excludes One-Time Adjustments</i>	
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SAATCHI BEATS A RETREAT BACK TO MAD AVE.

It wants out of consulting—but can it find a buyer?

For Sale: A group of eight far-flung consulting companies offering advice on everything from employee compensation to jury selection, from real estate strategies to computer systems.

That's what Victor E. Millar, head of Saatchi & Saatchi Consulting Ltd., is trying to peddle to anyone who will listen. In a significant reversal of strategy, Saatchi & Saatchi PLC put its consulting division on the block in mid-June. The announcement was accompanied by bad news: After 17 years of nonstop growth, Saatchi's operating income in the first half declined 41% from the same period last year, to \$46.5 million. Even though Saatchi expects the advertising side of the business, which accounted for much of the slump, to recover in coming months, founding brothers Charles and Maurice Saatchi decided it was time to refocus their attention and bail out of consulting.

TOP DOLLAR. The pressure to sell is heavy. The company is strapped for cash but has said it intends to maintain its dividends at last year's levels. That will eat up just about all of the \$48 million in profits Saatchi expects to have left this year after charges such as interest, extraordinary items, and taxes. So the cash from an asset sale would provide some breathing room.

But selling the consulting division may be difficult. The big accounting firms, financial-services companies, and other large consulting outfits may be interested in bits and pieces. But analysts and consulting executives say the collection is such a hodgepodge that they have trouble seeing it as a rational entity by itself or as a good fit with any one purchaser. For example, Saatchi's Cleveland Consulting Associates Inc., which specializes in manufacturing and transportation, has little in common with McBer & Co., a management development firm.

And Saatchi is asking an ambitious price. Management has told U.S. ana-

lysts that it hopes to get \$400 million to \$500 million for the group, but most figure the price will be at the low end of that range. The division's operating profits fell 12.5%, to \$11.9 million, in the first half of the fiscal year, despite a 37% rise in revenue, to \$184 million.

When Saatchi & Saatchi went into consulting in 1984, it seemed like a good

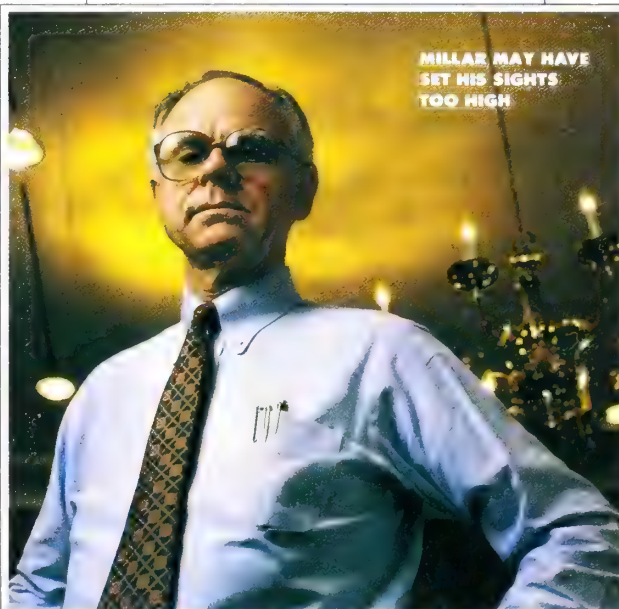
idea. But for a variety of reasons, that just hasn't turned out to be true. For example, synergy was one of the basic rationales for placing consulting companies under the Saatchi umbrella. The theory was that the consulting and communications units could send clients to each other. But it turned out that client companies generally have different people in charge of buying advertising and consulting services, so cross-referrals didn't produce much business. Only about 10% of clients use both Saatchi consulting and communications companies. "Consulting and communications are interrelated, but they will never become interdependent," Terry Bannister, Saatchi joint chief operating officer, now says.

EARNOUT BURNOUT. In addition, the strict financial controls and demanding profit objectives the brothers used to build their advertising and marketing holding company backfired in consulting, which demands vastly higher investments in training and research.

Take the Hay Group Inc., a Philadelphia-based firm specializing in human resources, which the Saatchis bought in 1984. As in many of their acquisitions, the brothers bought Hay for an initial downpayment, with future payments to Hay's principals based on the unit's performance. The total purchase price was \$125 million. This so-called earnout system began paying the principals after they met certain profit targets. But according to former executives, Saatchi's high goals forced Hay management to cut costs and investments too deeply, damaging new-business efforts. After the earnout was completed in 1987, Hay managers began staffing up, but Saatchi demanded a 30% U.S. revenue increase for this year. Hay isn't meeting that target, and has had to lay off 40 people. Millar denies that the earnout structure had any effect on Hay's growth.

Even companies that Saatchi bought outright felt the squeeze. Last year Saatchi paid \$90 million in cash for Gartner Group Inc., a high-tech publishing and consulting firm. Dale Kutnick, a former Gartner executive who now heads a competing firm, says he left because of the pending change in ownership. "Management sold the company based on certain profitability goals that I thought were way out of line," explains Kutnick. "I knew the situation would just get worse under Saatchi."

The Saatchis may have simply set their sights too high. Together with Mil-



THE TWO SIDES OF SAATCHI & SAATCHI

Ad agencies	1988 revenue Millions
SAATCHI & SAATCHI	
ADVERTISING WORLDWIDE	\$488
BACKER SPIELVOGEL BATES	465
CAMPBELL MITHUN ESTY	96
OTHERS	90
SUBTOTAL	\$1139
Consulting firms	
HAY GROUP Human resources	160
GARTNER GROUP High-tech publishing	50
PETERSON & CO. Litigation consulting	45
OTHERS	64
SUBTOTAL	\$319
TOTAL	\$1458

, a 30-year veteran of accounting firm Arthur Andersen & Co. whom they hired in 1986, they had planned to become the No. 1 consulting company in five years. They and Millar were especially interested in Andersen's consulting division, the leader in information consulting. With annual growth of more than 30%, information consulting—the design and setup of complex computer systems—is one of the fastest-growing segments of the industry. But Andersen spurned its former employee's overtures.

BREAKAWAY. Saatchi did get something out of its efforts. Six top consultants left Andersen to start Information Consulting Group, a breakaway firm backed by Saatchi money. Saatchi holds an option to buy 100% of the firm at a later date. The October, 1987, stock market crash did put a curb on Saatchi's acquisition spree. Its American depository shares now trade at around 15, less than half their precrash high. The depressed price

only now is Saatchi & Saatchi Worldwide Advertising pulling out of a prolonged new-business slump

But Saatchi could not finance big acquisitions by issuing stock, hampering efforts to round out its consulting properties. The division "may look like a separate group," says Millar, "but it's because you're looking at three cylinders of an eight-cylinder engine." Even if the Saatchis get a good price for the consulting division, they'll have their work cut out for them. First-half operating profits for its communications units—its ad agencies and public relations, market research, and sales promotion firms—plummeted 47%, to \$34.6 million. Revenues increased a meager 5.5%, to \$516 million—well below the 10% gain the company expected, says Bannister. Bannister blames most of the decline on the steep costs of merging more than 10 units into two mega-agencies in the last two years. More time was spent on administration than on beating the drum for new business. Only now is Saatchi & Saatchi Advertising Worldwide, the second-largest U.S. agency, emerging from its new-business slump.

When faced with the decline in profits and the other troubles at the company, Charles Saatchi recently asked top executives: "Why can't we get back to making and advertising?" He may well wonder why he didn't ask that question long time ago.

By Walecia Konrad in New York and
David A. Melcher in London

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CLEANING HOUSE AT HUD—AND THEN SOME

In the midst of an ever-widening scandal, Kemp sees a chance to reinvent privatization

Housing & Urban Development Dept. has no foreign policy role. So why did it need a Kremlinologist? Because Secretary Samuel R. Pierce Jr. loved to spend time in Moscow and felt he needed a Soviet trade adviser. His choice was former English professor June Q. Koch, a Reagan campaign aide who had no experience in either housing or Soviet affairs when she joined HUD in 1981.

By the time Koch resigned as Assistant HUD Secretary in 1987, she had learned enough to parlay her newfound specialty into a career. She set up shop as a trade consultant, attracting such big clients as Brown & Root, Hewlett-Packard—and HUD. On one trip to the Soviet Union, she represented HUD while back home her firm promoted itself as the U.S. agent for the Soviet Chamber of Commerce. Because she simultaneously claimed HUD, corporations, and

the Soviets as clients, Representative Tom Lantos (D-Calif.) calls Koch's activities "the ultimate hat-trick." Lantos wants the Justice Dept. to investigate. Koch, 56, denies any wrongdoing, calling the probe a "complete railroad job."

Koch's career-building was just a small example of the strange goings-on at HUD under Pierce. While the man Reaganites dubbed "Silent Sam" indulged his curiosity about the Soviet Union, his agency crumbled. Political cronyism, incompetence, and outright thievery ran rampant. Investigators believe losses—from mismanagement of mortgage insurance programs, influence-peddling in housing rehabs, and bungled foreclosures—could hit \$3 billion to \$4 billion.

Much more than a waste of taxpayer's money is involved. HUD was in the vanguard of the Reagan Revolution. By shifting federal responsibilities to private hands, the Reaganites promised to

save taxpayers a bundle and break the "Washington buddy system" that lost billions through "waste, fraud, and abuse." Reagan's HUD slashed regulation, decimated its staff, and turned almost \$20 billion in housing aid over to the private sector.

NEW NEW WAVE. Now, HUD has a whirlwind of a new boss, Jack F. Kemp, who wants to be the guru of a new wave of free-market housing initiatives (page 74). He has, unfortunately, very little cash and his people will be preoccupied trying to salvage a few extra cents on the dollar from the scores of deals gone sour.

Kemp sees the scandal as a bit of a blessing. While Congress hails his aggressive cleanup efforts, he's using the furor to help the Bush Administration ditch some unwanted HUD programs. "It's typical of Kemp to look at any problem as an opportunity," Kemp says of himself. At the top of his hit list are

ubsidies for construction of hospitals and nursing homes. But the Secretary will find it tough to persuade Congress to give him carte blanche to design new programs that rely on private business. Already, Democrats worry that Kemp will use the scandal as an excuse to slash the few remaining traditional federal housing programs. His job is made even tougher because the members of the House and Senate Banking Committees, who must sign off on his plans, are the very lawmakers who are hip-deep in salvaging the savings and loan industry. Only a few years ago, Administration officials told Congress that \$5 billion or more was needed to bail out the thrifts. Now, the experts put the cleanup at \$100 billion. HUD losses are unlikely to total much more than 1% of that, but Congress is justifiably skittish when it's told the problem is under control.

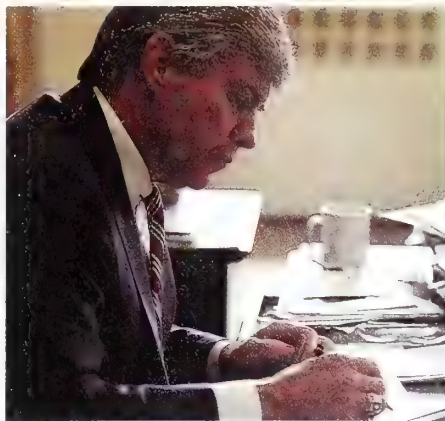
Indeed, the scandal seems endless. Here's what investigators are finding:

Coininsurance fraud. In 1983, HUD began to reduce federal liability for bad mortgages. It encouraged private lenders to pick up a small share of the cost of defaults on loans to developers to refurbish moderately priced housing. In return for unusually large fees, the lender had to insure 20% of the loan; the FHA covered the rest. HUD's Government National Mortgage Assn. packaged the loans for sale to the public, but HUD officials didn't watch the lenders closely. They now estimate that more than \$900 million of the program's \$8 billion portfolio is in default and fear an additional \$1 billion may go sour. (This is separate from Ginnie Mae's main mortgage-backed securities program, which has sold some \$300 billion of insured single-family loans.) HUD has been getting \$1 on the dollar in settlements but hopes improved procedures will let it collect 50¢.

Cleaning up this program is "where we can save the most money the fastest," says C. Austin Fitts, a former junk-bond whiz at Dillon Read & Co. brought to head HUD's housing programs. She has dropped three lenders from the coininsurance program, suspended three others, and has three more under scrutiny. The program has been closed to new lenders until they can be screened. HUD says two-thirds of the defaults so far are in the portfolio of a Rockville (Md.) firm, DRG Inc., which coinsured more than \$600 million in bad paper.

Mortgage insurance fraud. HUD's Federal Housing Administration, which insures \$245 billion in mortgages, lost \$2 billion in 1988 on the sale of foreclosed properties, many in the economically depressed Southwest. But HUD's inspector general believes up to \$500 million of the losses could be due to fraud.

While there have been 340 convictions



SECRETARY KEMP: THE SCANDALS MAY ENABLE HIM TO DUMP UNWANTED HUD PROGRAMS

for defrauding the fund in the past four years, the scams continued. The most widespread was "equity skimming." Speculators moved into a depressed housing market and promised to take over HUD-insured mortgages from homeowners in trouble. The speculator then rented out the home but never made mortgage payments. Loan servicing was so lax that it was often 18 months before the lenders and HUD discovered the

HUD's inspector general says up to \$500 million in mortgage insurance losses could be the result of fraud

scam. By the time the lender foreclosed, the speculator would simply walk away, leaving HUD to make good on the loan.

HUD was also victimized by lenders that faked mortgage applications in order to get approval for FHA loans and earn fees. The lenders would prepare phony documents that purported to show that borrowers had sufficient funds to make downpayments while doctoring credit documents to downplay borrowers' debts. Homes were overappraised so that HUD insured loans for



'ROBIN HUD': MARYLAND AGENT HARRELL HAS ADMITTED STEALING \$5.5 MILLION

tens of thousands of dollars more than the property was worth. Late in the Reagan years, HUD was able to double its monitoring force. But that only brought the staff to 40.

Between 1983 and 1987, FHA foreclosures jumped from 20,000 to 80,000. In 1988, HUD's Denver regional office alone sold off 12,000 properties. The average sale price was \$42,000—and the average loss a huge \$34,000. "The mandate was sell, sell, sell," says Isaiah Kelly Jr., acting regional administrator.

Nationwide, properties were being sold off for an average 25¢ on the dollar. In 1988, HUD's inspector general reviewed 30 foreclosures in Chicago and determined that the FHA's average list price was nearly 40% below the appraised value. HUD officials say they don't know if agency-authorized brokers acted in concert with local speculators to lowball listing prices. Today, HUD has stopped telling its staffers to sell at any price. Says Kelly: "The mandate now is sell, but get as much as you can. I don't want to be known as the guy who dumps the properties no matter what."

Escrow agent fraud. HUD escrow agents, for a small fee, are supposed to handle the sale of defaulted homes. But some discovered that if they didn't forward the sale proceeds to HUD, no one noticed. About a dozen agents are under criminal investigation in the disappearance of what HUD officials fear could be \$100 million. Maryland agent Marilyn Harrell, called Robin HUD by probers, has admitted siphoning off \$5.5 million. She says she gave the money to the poor.

Political favoritism. A \$225 million-a-year housing rehabilitation program is supposed to help local housing authorities purchase and then renovate buildings as low-income rentals. Instead of awarding grants to local housing officials on the basis of need, former HUD officials and political operatives teamed up with developers to devise their own projects. Local housing authorities were only brought in at the last minute to put their stamp on the deals.

The projects would get the O. K. from Pierce's 34-year-old executive assistant, Deborah Gore Dean, who cleared all applications. Then the consultants would reap huge fees paid out of the project's funding. Former Interior Secretary James G. Watt has testified that he earned \$300,000 for making a few phone calls to win approval for a project near Baltimore. Partners in Black, Manafort, Stone & Kelly—a hot political consulting firm that worked on the Presidential campaigns of Reagan, President Bush, and Kemp—earned \$326,000 for helping win a Seabrook (N.J.) project that local officials did not want.

Officials have given regional offices

until June 30 to get their books in order so Congress can be told just how much money is involved. Kemp has formed several task forces to keep abreast of the scandal. "We have taken some dramatic steps not only to clean up but to reorganize HUD from stem to stern," says Kemp. Meanwhile, Attorney General Richard L. Thornburgh has ordered U.S. attorneys to accelerate prosecutions involving HUD programs.

Like the S&L crisis, the HUD scandal

has its roots in the oil-patch recession that wrecked the Southwest's economy. Thousands of honest borrowers walked away from loans they could not pay. The problem was made worse because HUD allowed high-rolling lenders, fly-by-night developers, and corrupt appraisers to take advantage of the troubles.

HUD's new staff is a practical-minded bunch, less given to grand schemes and ideological purity than their predecessors. And Kemp himself is far more in-

involved in the doings of his agency than was Pierce. Kemp is at pains to say that old-fashioned mismanagement, not a fundamental flaw in privatization, was behind the mess at HUD. But if the scandals have done little to shake Kemp's faith in privatization, they have done even less to convince Congress that the idea deserves to be expanded.

By Howard Gleckman, Paula Dwyer, and Douglas Harbrecht in Washington, with Randy Welch in Denver

HOUSING

AND THE LATEST GREAT HOUSING HOPE IS . . .

Public-private partnerships are promising, but not a cure-all



ONE SUCCESS STORY: CHICAGO'S BICKERDIKE HOMES USED BOTH FEDERAL AND PRIVATE MONEY

For three decades, the federal government has spent billions of dollars in an ill-starred effort to house the poor. Great Society programs led to construction of massive inner-city housing projects that became seedy pockets of crime, drugs, and despair. The Reagan Revolution took a different approach, slashing federal budget authority for housing aid from a high of \$31.5 billion in 1978 to about \$9 billion in the current fiscal year (chart), hoping that the private sector would pick up the slack. But the present mess is distinctly a product of lack of money and attention under the Reaganites.

Policy makers view the widening scandal at the Housing & Urban Development Dept. as an opportunity to set things right. It's "like a forest burning

down, paving the way for fresh, new growth," says David O. Maxwell, chairman of the private Federal National Mortgage Assn. Already, a political consensus on the new shape of federal housing policy is emerging. Handcuffed by the budget deficit, Congress and the Bush Administration know that the lavish spending programs of the past are gone forever.

The great new hope is public-private partnerships, an incantation that HUD Secretary Jack F. Kemp and legislators increasingly hope will cause shiny new housing to materialize in their swamp of slums and red ink. Washington provides a dollop of seed money, and the private sector and local governments leverage it to finance housing for the poor. "This is a crazy, improvisational quilt, but it's

promising enough to build on as a national strategy," says Paul S. Grogan, president of the New York-based Local Initiatives Support Corp.

The rethinking of housing policy is occurring at a critical time. The elimination of tax incentives for investors and the changing economics of the real estate markets have caused inexpensive rental units to vanish. From 1973 to 1983, 4.5 million units were either demolished or converted to more upscale uses, while only a little more than 1 million new units were built, both private and subsidized. At the same time, renters are finding it increasingly difficult to pay for the apartments that remain. In constant 1986 dollars, the median income of renters dropped from \$18,000 in 1972 to \$15,300 in 1986. At the same time, inflation-adjusted rents have risen in all areas of the country except the Midwest. About 60% of the poor now spend more than half their income on housing.

IRA FUNDING. Congress and the Administration are trying to figure out how to attack this problem without draining the Treasury. Senators Alan Cranston (D-Calif.) and Alfonse M. D'Amato (R-N.Y.) have introduced a \$4.1 billion package. It would make HUD the clearinghouse for funneling money to states and localities for public-private housing partnerships. To gain middle-class support, the bill also would allow first-time homebuyers to use money stashed in tax-deferred individual retirement accounts to make their downpayments. It would raise the ceiling on mortgages insured by the Federal Housing Administration as high as \$200,000, about double current levels.

Kemp, who is trying to persuade President Bush to unveil a new Administration housing program during July, backs the thrust of the legislation. He favors raising the ceiling on FHA-insured mortgages, although not as high as the Cranston-D'Amato proposal would. Kemp also wants to integrate rent assistance with other social programs, such as driving drugs from neighborhoods and improving health care. That might mean, for example, requiring developers of housing for the elderly to provide long-term care as well.

But Kemp wants to rely mainly on market forces by emphasizing tax credit for private developers, vouchers that give the poor a greater choice of housing, and selling public housing units to private tenants. The scandals swirling around his agency haven't shaken his belief that the private sector can do a better job than government—though he wouldn't emulate the Reagan Administration's laissez-faire approach. Privatization without accountability isn't privatization," he says. "It's just government gone berserk."

But Kemp's approach faces hurdles even within the Administration. To date, he hasn't persuaded Budget Director Richard Darman, White House Chief of Staff John H. Sununu, or Treasury Secretary Nicholas F. Brady to go along with his housing blueprint. Although it is exceedingly modest—Kemp estimates that his ideas would cost only a few billion over three or four years—opponents balk at proposals as an expanded credit for investors in low-income housing and big tax breaks for enterprise zones.

GIIC BLEND. Based on scattered evidence from around the country, public-private partnerships—the "linchpin of Congress' and Kemp's strategy—can be of some help in lifting neighborhoods out of the ashes. The six-year-old Boston Housing Partnership Inc. has rehabilitated 100 units—relying on the federal government only for tax credit. The BHP, whose board members are chief executives of major local banks, uses a blend of financing that includes funds from the city and state, private banks, and investors. About a thousand of the units were in buildings whose owners had defaulted on HUD loans. "It's pretty shocking when there is so little federal support that the state has to use its precious dollars to rehabilitate existing projects," complains Democratic Governor Michael S. Dukakis, a big supporter of the partnership approach. Bickerdike Redevelopment, a nonprofit community-based organization in Chicago, relies more heavily on federal largesse. It started seeking federal and state aid to renovate and build low-income townhouses in Chicago's Humboldt Park neighborhood in 1981. Bickerdike sold tax-exempt bonds through the FHA mortgage insurance, and HUD subsidies that pay rent in excess of 30% of tenant's income. Then it signed up private developers who raised \$1.6

million in equity. Today, its first project boasts 140 town houses with a waiting list of hundreds of hopeful tenants. The well-tended lawns and flower gardens provide a sharp contrast with the graffiti-covered buildings nearby.

But not even the most gung-ho advocates of public-private partnerships believe that these efforts will solve the nation's housing woes. Consider New

York's Community Preservation Corp., one of the oldest and best examples. Since 1974, the organization has renovated 23,000 units, and by targeting its work, it has helped prevent the deterioration of individual neighborhoods. The CPC draws from more than \$500 million in credit facilities provided by its backers, which include 39 banks and insurance companies, as well as two city pension funds. The nonprofit company also runs interference with the city bureaucracy for the small developers it works with. "[We're] the little guy's James Watt," jokes CPC President Michael D. Lappin.

Lappin has no illusions about his ability to make a difference in the grand scheme of things, however. CPC has renovated only 1% of the city's housing stock. "No one is foolish enough to think this is the whole answer," he says, "but it is a piece of it." Other experts are less sanguine. "Public-private partnerships are marvelously important for the morale of the people involved," comments Rutgers University housing expert George Sternlieb, "but we cannot do without federal muscle."

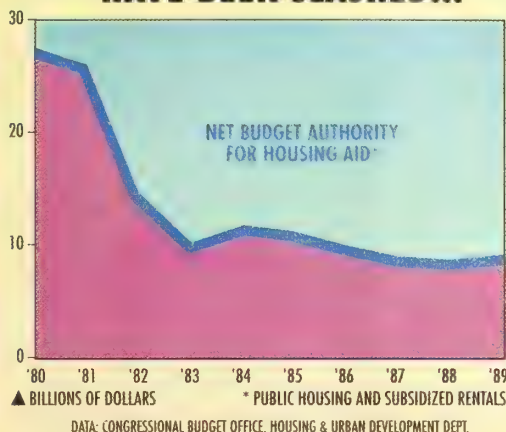
SCRAP HEAP. Indeed, the public-private partnerships create only 25,000 new low-income rental units a year, according to the Enterprise Foundation, a Baltimore-based nonprofit organization founded by developer James W. Rouse. That pales beside the 150,000 units scrapped annually and the 300,000 new units created each year in the late 1970s at the height of HUD's subsidies.

The partnership craze can't hide one critical fact: Housing costs money—lots of it. And in light of the HUD scandal, it's understandable that Congress may be reluctant to give Kemp still more money for the agency. Just about every major program over the past few decades has ended in a shambles, raising the question of whether disaster is endemic to U.S. housing policy.

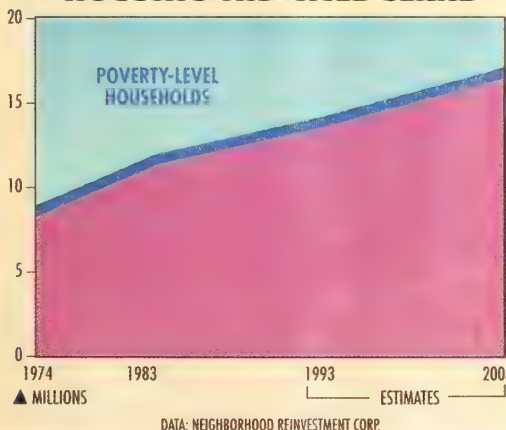
But as the number of homeless Americans grows and the availability of affordable housing declines, the government has little choice but to try again. Public-private partnerships may be a start, but its advocates should be careful about claiming that they are the ultimate solution. "There's a conviction among many that there's some magic bullet we've missed in the last 50 years with which we could solve the problem without spending any money," says Barry Zigas, president of the National Low Income Housing Coalition. "It's a noble quest, but it's in vain." America has tried to solve its housing woes for decades with mixed success. For HUD to move ahead now, it needs the right formula of cash, creativity—and commitment.

By Catherine Yang in Washington, with Leah J. Nathans in New York, Robert B. Duffy in Boston, and Lois Therrien in Chicago

FEDERAL HOUSING DOLLARS HAVE BEEN SLASHED...



...BUT THE NEED FOR HOUSING AID WILL CLIMB



York's Community Preservation Corp., one of the oldest and best examples. Since 1974, the organization has renovated 23,000 units, and by targeting its work, it has helped prevent the deterioration of individual neighborhoods. The CPC draws from more than \$500 million in credit facilities provided by its backers, which include 39 banks and insurance

'Privatization without accountability isn't privatization. It's just government gone berserk'

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INVESTORS ARE DEVELOPING A TASTE FOR THIS POISON

Takeover-wary bond buyers demand 'poison put' insurance

Metropolitan Life Insurance Co. found out the hard way that it lacked basic coverage itself—against the damage a takeover can do to its bond portfolio. Its \$340 million in A-rated RJR Nabisco Inc. bonds looked good until RJR took on huge debt to finance history's largest leveraged buyout. Its bonds dropped to junk-level BB, dealing Metropolitan Life a paper loss of \$40 million. Suing RJR for reimbursement, Met Life argued that there

Some issuers don't have to be pushed. Grumman Corp., troubled by defense cutbacks, anticipated a tough time in January selling a \$200-million issue. "We needed working capital, and after RJR, there was hysteria in the bond market," says William Wachino Jr., Grumman's chief financial officer. So the aerospace company added a poison put, and "the sale went well."

Because they ease buyers' fears, poison puts lower costs for issuers. "You

or in public junk bonds. RJR, with its new cellar-dwelling rating, added a put to its recent \$6.1 billion junk offering. The covenant takes effect if owner Kohlberg Kravis Roberts & Co. loses control. Lately, however, puts are also popping up on high-rated paper from such issuers as Becton, Dickinson & Co. (table).

RAIDER REPELLENT. What's more, covenant wording is much stricter nowadays. Gone is the requirement that a takeover must be judged "hostile" by the board of directors to trigger a put. The trouble with this: At the end of a losing takeover fight, battered and bleeding boards usually pronounce the buyout friendly.

On the other hand, a good poison-put issue may keep things from reaching that pass. They're designed in part as a raider repellent, albeit an untested one. Clearly, they make buyouts costlier because a raider must pay off both stockholders and bondholders. The flaw, though, is that many takeover targets

have relatively little debt, so paying off bondholders wouldn't be much of a hardship.

The downside for issuers is that the covenants limit their flexibility to restructure. Some blue-chippers, such as Eastman Kodak Co., want nothing to do with them, thank you. And that leaves underwriters in the crossfire. "I know corporations that oppose them adamantly and state pension funds that won't buy issues without them," says

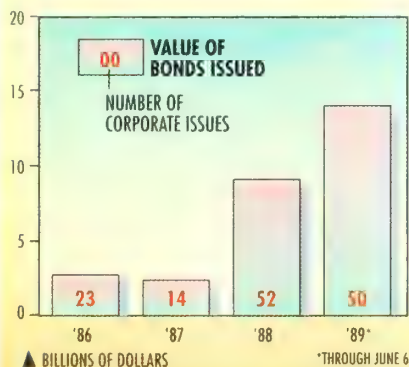
Charles P. Drakos, a Salomon Brothers Inc. managing director.

PARTIAL POISON. As a compromise, Bear Stearns & Co. last month unveiled a new note that pegs the yield to the credit rating. The first volunteer for the experiment is Enron Corp., a Houston natural-gas company whose bonds are rated just above investment grade at BBB-. If it's downgraded only one notch, the 9.5% coupon jumps to 12%. If the grade moved up to A-, the rate eases to 9.4%. "Bondholders will know what's down the road," says John Steinhardt, a Bear Stearns senior managing director.

It's an open question whether this automatic rate sweetener will prove more popular than the money-back guarantee. But there is little doubt that corporate issuers aren't to wear out their welcome in the bond market—they'll have to offer some shield from the "event risk" they increasingly carry.

By Larry Light in New York, with bureau reports

MORE BONDS GET PROTECTION . . .



. . . AND HERE'S HOW IT WORKS

Company	Issue date	Amount of issue Millions	Bondholder gets principal back if . . .
BECTON, DICKINSON	3/13/89	\$100	20% of stock bought and ratings downgrade
FEDERAL EXPRESS	4/18/89	100	30% of stock bought and ratings downgrade
LONG ISLAND LIGHTING	4/10/89	375	Acquired by government body
RJR NABISCO	5/12/89	4,110	KKR's stake reduced to less than 40%
VONS COMPANIES	4/25/89	100	50% of stock bought and ratings downgrade

DATA: SECURITIES DATA CORP.

was an "implied covenant" against such harm to bondholders. But on May 31, a federal judge rebuffed it, saying any covenant would have to be in writing.

And, vows Chief Executive John J. Creedon, from now on, that's just what the Met will demand before it buys a nickel's worth of new corporate bonds. It's not an idle threat. Since the RJR debt debacle, more and more bond buyers are getting issuers to include these safeguards. From January through early June, according to Securities Data Co., a market analysis firm, 50 issues worth \$14 billion contained such protection—almost as many issues as for all of 1988, and more in dollar terms (chart).

'THERE WAS HYSTERIA.' Known on Wall Street as "event-risk language" or "poison puts," the covenants allow investors to get back their principal, and sometimes a few points more. They usually kick in if a large chunk of a company's stock is bought by one buyer—perhaps a raider—and the bonds are downgraded.

give the potential bond buyer some form of insurance, and he's willing to give up a little in rate," says an official with Caterpillar Inc., the heavy-equipment maker. A company may save one-third of a point in annual interest.

Poison-put vogue has extended to Standard & Poor's Corp. In mid-July, it plans to start grading the protection offered in individual covenants on a 1-to-4 scale. Moody's Investors Service says it takes the puts into account when setting overall company ratings. Until recently, puts were seen mainly in private placements from less creditworthy companies

'You give the potential bond buyer some form of insurance, and he's willing to give up a little in rate'

BY GENE G. MARCIAL

ATTENTION K MART SHOPPERS

The way some savvy pros tell it, one of the bargains at K mart, the discount-chain operator that is also the nation's second-largest general-merchandise retailer, may be its own shares. The stock is down to 36, not far from this year's low of 34. K mart has lagged behind its group and the rest of the market for the past couple of years. And when raiders zoomed in on retailers last year, K mart wasn't among those pursued. One reason: It was on an acquisition kick, which didn't help the stock.

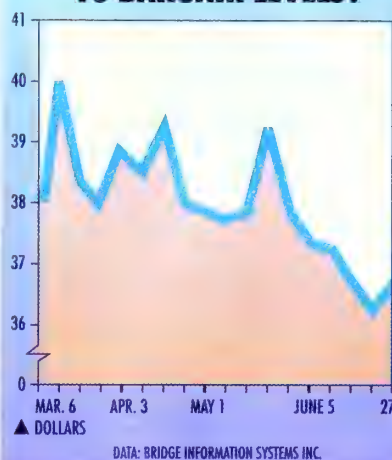
"The unrecognized values in K mart are just tremendous," says W. Anthony Hitschler, president of Brandywine Asset Management. The company has more than 4,000 stores across the country, including Waldenbooks and Pay Less Drug Stores. He notes that K mart is now the cheapest among the retailing biggies. J. C. Penney's price-earnings ratio is 12, and Sears Roebuck currently trades at a p-e of almost 11, while K mart's p-e is only 9.3. Based on Hitschler's estimated earnings of \$4.70 a share for the year ending Jan. 30, 1990, K mart's p-e is a mere 7.8.

Several takeover investors note that asset-rich retailers selling for such depressed p-e's end up being taken over or having to restructure. One takeover pro puts the private-market, or takeover, value of K mart at \$65 a share. He believes that K mart may well go private. Although management owns less than 1% of the stock, the company's rising cash flow of about \$1.8 billion, or \$9.20 a share, could help finance a leveraged buyout, he says.

CASH HOARD. If management doesn't restructure, says one takeover strategist, an outside group may enter the picture. K mart's prospective cash flow greatly exceeds capital-spending requirements—a situation that usually attracts buyout groups, says Oppenheimer & Co. analyst Ed Comeau. He figures that a cash hoard of \$2 billion—or \$10 a share—could be accumulated by the end of 1991. Right now, K mart has nearly \$1 billion in cash—which is reason enough for sharks to circle.

One pro says that a French company has its eye on K mart. His reading of the situation: "The French group is

IS K MART STOCK DOWN TO BARGAIN LEVELS?



definitely eager to bring its retailing operations to the U. S. through a widely known national merchandiser such as K mart."

THE LITTLE GUY IS BACK. ASK SCHWAB

If you believe in the return of the small investor, bet on Charles Schwab. The individual player hasn't exactly rushed the gates, but market mavens are beginning to sense a renewed interest in equities. If true, the parent of Charles Schwab & Co., the nation's largest discount broker, will be among the chief beneficiaries.

Schwab's stock is already reflecting the upbeat mood. Battered down to 6 during the 1987 crash, the stock has snapped back to a postcrash high of 12. The rebound has shown up in Schwab's first-ever payment of a quarterly cash dividend, 3¢ a share, announced on May 23. The first quarter showed good results, with Schwab posting earnings of 15¢ a share, more than double the earnings reported a year ago.

Chairman Charles Schwab says market participation by individual investors has increased about 25% to 30% from the low levels seen in the fourth quarter of 1988. He's confident that their involvement will continue to balloon.

Even doubters concede that the shares of discount brokers have become more attractive than those of their mainstream brethren. "We still want to avoid major bets on the return of the individual investor," says Mike Blumstein, an analyst at First Boston. But "do-it-yourself investors," he adds, are generally more sophisticated and

could find a strengthening market too attractive to ignore.

Even if the return of the little guy comes a bit slowly, Schwab is moving to avoid further downdrafts in business volume: The company has been offering diverse services, including third-party research analyses and deep-discount programs to big institutions and financial planners.

So far, the technical behavior of Schwab shares looks extremely positive, says Andy Addison, president of Addison Investment Management in Boston. Schwab is "the stock for this bull market," he says, "with a strong possibility of rising to the mid-20s in the next 6 to 12 months."

CASHING IN ON THE FAX FRENZY

The facsimile machine is a rousing success, and Wall Street is busy looking for ways to play this ubiquitous technological wonder. John Westergaard, a guru on emerging growth stocks, believes he has found the perfect fax buy: Stuart Hall, a maker of office and school supplies and stationery.

Fax paper is mostly made in Japan, notes Westergaard. But in June, Stuart Hall signed an agreement with a Japanese paper manufacturer to develop quality fax paper for the U.S. "The coating technology involved is complex," he says, "and so far, no U.S. manufacturer has been able to make a serious dent in the market." The paper that Stuart Hall will develop will be the first nationally branded fax paper, and it will be adaptable to 100 machines.

Westergaard estimates that Stuart Hall will have the product in more than 10,000 mass-market stores, including Wal-Mart Stores, by late summer and in over 20,000 outlets by January, 1990. This will be Stuart Hall's first venture with a Japanese maker. It gets the paper for its 750 other products from American manufacturers.

"If our projections are on target, Stuart Hall's stock will fly to 30 to 35 within 12 months," says Westergaard. The shares currently trade at 12½. Westergaard figures that sales of fax paper alone will bring in \$5 million by the end of November and contribute \$20 million in 1990. Total revenues last year were \$66 million. Earnings, including sales of fax paper, should jump to \$1 a share in fiscal 1989 and to \$1.70 in 1990, estimates Westergaard, up from 79¢ last year.

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TELECOMMUNICATIONS

BEHIND THE SCENES AT THE FALL OF ROLM

IBM took too long to get a fix on how bad things were

It was last autumn, and Ellen M. Hancock had a problem for which there seemed to be no solution. It was IBM's Rolm Systems Div. Big Blue had bought the Silicon Valley maker of phone switches four years earlier to supercharge its long-stalled thrust into telecommunications. But Rolm was sputtering. Hancock had ordered a review of it in early 1988, soon after she was made head of IBM's communications-products operations. Now, she was looking at the dismal result.

Rolm seemed headed for its fourth annual deficit in a row—which analysts later put at \$300 million. Software bugs had delayed the company's newest private-branch exchange, or PBX, by months. Even worse was the outlook for the PBX market itself. In the early 1980s, many experts thought that PBXs would evolve to handle computer data as well as phone traffic. Instead, that role went to other equipment, including local-area computer networks. As a result, the once-vibrant PBX market had become a commodity business characterized by cutthroat pricing and dominated by high-volume competitors such as American

Telephone & Telegraph and Canada's Northern Telecom. The prognosis was that \$480 million Rolm, despite being No. 3 in the U.S. with an 18% market share, might lose money for several more years—and perhaps never be highly profitable.

So, Hancock pulled the plug. She told IBM Chairman John F. Akers that Rolm lacked the makings of a "winning equation." Soon after, Big Blue forged a deal to sell Rolm's manufacturing and development operations to Siemens, the \$33 billion West German electronics powerhouse. IBM will keep 50% of a new Rolm marketing company and share its management through an evenly split, six-member board that includes Hancock.

When the sale of Rolm is completed

The sale will put an end
to one of the most
embarrassing chapters in
Big Blue's history

later this year, it will end one of the most embarrassing chapters in recent IBM history. Hancock says that Rolm taught IBM a lot about voice communications. But the price was steep. Big Blue paid \$1.5 billion for Rolm. Then, analysts estimate, it spent nearly \$1 billion, including losses and research and development expenses, trying to turn Rolm around, only to sell it for no more than \$1.15 billion.

It was the fourth false start in a decade for IBM in telecommunications, a business it sees as crucial to its future. In the late 1970s, its Satellite Business Systems venture failed to win a chunk of the burgeoning market

for private, corporate-communications networks. So IBM swapped its SBS ownership for 16% of MCI Communications Corp., the No. 2 long-distance phone company. Then, Big Blue bailed out of MCI before its current recovery was complete. Meanwhile, its 1982 investment in Canada's Mitel Corp. fizzled because of snags in a new Mitel voice-data switch.

The Rolm debacle was the most shocking. By the time IBM bought it, Rolm was already in decline. Insiders say that a 1983 IBM study showed this. But somehow, the executives who signed off on the deal, including former Chairman John Opel, former Vice-Chairman Paul J. Rizzo, and former Chief Financial Officer Allen J. Krowe, now CFO at Texaco Inc., either didn't get the message or underestimated it. "We didn't buy with the expectation that Rolm would be profitable in the first year or even the second," Krowe says. Still, a former IBM executive says: "People who understood the market best weren't asked" by top managers for their opinions.

PERFECT ANSWER? Indeed, IBM seemed dazzled by Rolm. A model startup, its computerized PBXs revolutionized the industry in 1975 by routing calls faster and better than electromechanical switches. Rolm's sales rocketed to \$295 million by 1981 as it captured 15% of the PBX market—second only to AT&T's 36%. And by 1982, Rolm had already developed such promising new products as voice mail, PBX software that turns a basic office phone into an answering machine. More impressive, Rolm was working on changes to let its PBX handle data communications between computers.

ROLM UNRAVELS

In fact, Rolm looked like the perfect answer to IBM's worst nightmare: AT&T's entrance into the computer business. On the eve of launching its local phone companies, AT&T had big plans in computers. Rolm even had begun hiring some of AT&T's best talent. No one knew that AT&T would spend the rest of the 1980s losing billions in computers. Rolm did IBM, whose overall sales had nearly doubled between 1980 and 1985, know that it was on the verge of a deep slump that could make Rolm a heavy burden.

Rolm was also appealing to IBM because of its archetypal Silicon Valley work ethic. Employees worked long hours for co-founder M. Kenneth Oshman, whom they regarded as a visionary. Says former Rolm Vice-President J. Geoffrey Henschel: "It was no problem getting up at 5 a.m. because every day you felt like you were on a mission." Rolm's Santa Clara (Calif.) company featured such commitment with no raises, a company pool, and three-month sabbaticals after six years of employment.

IT'S MAKE A DEAL. Still, the bigger company should have known that something was amiss. As early as 1982, Rolm was under stress. Rolm's sales in the \$3 billion PBX market were slowing. AT&T and Northern Telecom had caught up technology and were slashing prices. Rolm's gross margins had sunk to 14%. By early 1983, Oshman was worried that he couldn't afford to develop all of his best ideas. So he approached his friend Jack D. Kuehler, then a division chief for IBM in Silicon Valley and now Rolm's president, with a request for financing. Kuehler told his bosses. After kicking it over, in June, 1983, Big Blue bought 15% of Rolm for \$229 million. Eleven months later, IBM purchased the rest. It wanted more control over Rolm, whose profits rose a meager 3% in a 31% sales gain in the year ended June, 1984. And, sources say, IBM wanted to assuage its own lawyers. To avoid the antitrust battle with AT&T, they had been running joint projects between Rolm and IBM.

Soon, however, it became clear that Big Blue had overestimated Rolm's worst problems. Although Krowe cites both pros and minuses, on balance, Rolm's technology had lost out. A new PBX introduced in November, 1983, was based on an eight-year-old central processor that ran so hot it required special air-conditioning

1975 Rolm, a six-year-old supplier of specialized military computers, diversifies into computerized private branch exchanges that set a new standard in office telecommunications systems

JUNE, 1983 Rolm, struggling to keep up with competition from AT&T and Northern Telecom, persuades IBM to buy a 15% stake for \$229 million

JANUARY, 1984 Bell system breakup galvanizes AT&T to intensify its PBX sales and slash prices

SEPTEMBER, 1984 IBM, frustrated in its efforts to jointly produce equipment with Rolm, decides to purchase the rest of the company for \$1.3 billion

FALL 1985 Big Blue takes charge, forcing Rolm to hire all new employees from within IBM

JANUARY, 1986 Rolm co-founder M. Kenneth Oshman quits company, setting off a wholesale departure of key executives

MARCH, 1987 IBM absorbs Rolm's force of 6,000 salespeople, ending Rolm's cherished autonomy. Oshman's replacement, Rolm veteran Dennis Paboojian, resigns. Longtime IBM executive Ray S. AbuZayyad takes charge of Rolm

DECEMBER, 1987 IBM turns Rolm into a division and turns supervision over to IBM VP Ellen Hancock, who begins full review of the switchmaker

AUGUST, 1988 Hancock concludes that IBM must seek a partner to stay competitive in PBXs. So IBM looks to Europe and cuts a deal with Siemens

DECEMBER, 1988 IBM says it will sell most of Rolm to Siemens. But IBM will retain partial control over marketing of Rolm's products worldwide

DATA BW

and more space than rival machines. "We'd get thrown out of deals in Manhattan because of the size of our switchers," says a former Rolm sales manager.

Rolm's manufacturing operations were losing their gloss, too. Oshman had set up three production lines, with three separate management staffs, and challenged them to compete. This boosted quality and productivity, but it also meant triple the overhead of competitors that had a single staff. As PBX prices fell, the high overhead killed Rolm's

OSHMAN: HIS STYLE ENGENDERED LOYALTY—AND, SOME SAY, WASTE



margins. The manufacturing cost squeeze was made worse by Rolm's PBX design, which used dozens more add-on circuit cards than Northern Telecom's PBX to expand capacity.

Similar inefficiencies plagued Rolm's marketing. It had 14 regional sales companies, many of them distributors that Rolm had bought. Oshman kept them independent to keep them entrepreneurial. But Rolm's prices and service varied widely, alienating big corporate customers that bought all over the country. "We were getting our clock cleaned by AT&T in large deals," claims a former sales executive.

Once Big Blue got a look at the problems, say former and current insiders, it should have taken charge. Instead, "IBM people kept saying: 'No, no, no!' They wanted to try their hand at more entrepreneurial methods," says a former Rolm insider. In a symbolic gesture, Rizzo and Akers even tipped a glass at a Rolm beer bash in October, 1984, despite IBM rules against imbibing on the job.

The idea was to avoid antagonizing Rolm's talent—with good reason. Robert M. Nugent, director of sales for Rolm's field offices, left the day IBM arrived. "I didn't want to work for the post office," he says. To stanch further defections, IBM agreed to delay imposing its

employment policies for at least a year and left Rolm's hefty sales commissions in place.

'PAINSTAKINGLY SLOW.' In other matters, however, Big Blue took command. Sometimes the help was welcome. An IBM team, in a matter of weeks, solved a technical problem on a device to speed data transmission over PBXs. Too soon, though, such stories became the exception. Rolm's pricing had to be reviewed by IBM staff, sometimes delaying a deal for weeks—an eternity in the PBX business. "It was just painstakingly slow to get things done," says Robert Finocchio Jr., a former sales vice-president.

By the fall of 1985, Rolm managers were getting fed up. Oshman, tiring of IBM's control, told his lieutenants he would leave the next January, ultimately to set up a network equipment company. It was a crushing blow for such a close-knit group. In the next few months, several more top executives left, gutting Rolm of its original leaders. These included Richard M. Moley, who spearheaded Rolm's original move into telecommunications from

defense-related computer equipment. Says Anthony V. Carollo Jr., a former Rolm sales vice-president: "When Ken left, it took a lot of the spirit out of people."

Indeed, the old Rolm soon would cease to exist in anything but name. IBM was now in the throes of the computer slump, and in October, 1986, Krowe took charge of Rolm's manufacturing and cut costs. Five months later, IBM swallowed Rolm's 6,000 salespeople, in part to placate customers who had been getting PBX pitches from both IBM and Rolm employees. When Rolm's higher sales commissions were cut, many Rolm veterans headed for the exits. Among them was Oshman's replacement, Dennis D. Paboojian. He was succeeded by Ray S. AbuZayyad, who had run IBM's huge general-products division in nearby San Jose, Calif., but knew little about PBXs. The changes doused what fire was left in Rolm. The evidence was at the doorstep. "How full was the Rolm parking lot at 6 o'clock Friday night, or on Saturday?" asks Finocchio. "Big difference."

It's a familiar pattern. The old Fairchild Camera & Instrument, a pioneer chipmaker, suffered a decline after being bought by Schlumberger in 1979, as did Atari after being purchased by Warner Communications in 1976. Entrepreneurial companies succeed largely because development, manufacturing, and marketing people talk to each other regularly, and often informally. That doesn't happen as much in a hierarchy such as IBM's. One former Rolm executive grumbles that his marketing suggestions were usually overruled by IBM staff. As a result, Rolm employees who relished trying new jobs felt like cogs. Says another: "Feeling like you made a difference—that was the most precious thing lost over the last several years."

BOTCHED JOB. From IBM's standpoint, of course, a change was overdue. Oshman's methods had failed to keep Rolm's winning streak going. And Big Blue, whose overhead was geared to selling mainframes at a 65% gross margin, was going to have trouble making money on PBXs that earned 8% to 10%. But even with IBM's input, Rolm's technical problems multiplied. IBM needed Rolm's 8750 PBX, which was due out in October, 1987, to keep its European customers from defecting to competitors such as AT&T for combined voice and data systems. With IBM's blessing, Rolm had decided in

early 1985 to use Motorola Inc.'s new 68020 microprocessor for the product. But the massive amount of new software required delayed the product for so long that IBM eventually canceled it.

By December, 1987, Rolm had become Hancock's problem. Akers, hell-bent on getting IBM's earnings back on track af-



SIEMENS' KASKE: HE WANTS TO BOOST HIS PBX BUSINESS IN THE U.S.

ter two years of turmoil, ordered managers at each of Big Blue's business groups to justify their operations. At Rolm, Hancock found that hard to do.

PBX industry revenues, which in 1985 had declined for the first time in recent memory, fell 3% more in 1987, to \$3.2 billion, and appeared unlikely to rebound. To win big customers, IBM frequently offered 50% off on Rolm's \$150,000 PBXs. That worked: Last year, Rolm's market share jumped to 18%, from 16% in 1987, according to Eastern Management Group, a Parsippany (N.J.) research firm. But that also produced Rolm's \$300 million loss, Eastern says. By then, because of price-cutting,

The Rolm debacle drives one more stake into the idea that IBM is invincible

Rolm's revenues had dropped 20% since IBM bought in.

That was it for IBM, which was still struggling to revive its computer operations. PBXs are "a technology-driven industry," says Hancock. "You must always be making investments in the next product." C. Michael Armstrong, former

chief of IBM Europe and now president of IBM World Trade Corp., was designated to find a partner. He put together a deal with Siemens' Chairman Karl Heinrich Kaske, who wanted to boost his company's PBX business in the U.S. The price was \$844 million, plus up to \$305 million more, depending on Rolm's performance this year.

The deal has taken longer than expected to complete, Hancock says, because it involves drawing up joint marketing deals with Siemens in the many countries where the two operate. "We are not just buying a business," says Peter Pribilla, chief of Siemens' Private Communications Systems & Networks Group. "We're forging a long-lasting partnership. Both hope to close the deal by yearend."

'MAJOR LOSS.' Assuming that happens, IBM will have shed most of its telecommunications problems and

gained a strong European ally. That's plus as Europe prepares to open its markets by 1992. And Big Blue has started to apply what it learned from Rolm. It still sells Rolm's PBXs and it has begun pushing a line of computer systems that manage all the elements in communications networks. A new software product called Callpath, transfers voice calls on a data-base information simultaneously to sales agents, speeding up orders. IBM also has learned to avoid buying companies outright and for now seems content to invest in niche players. "This is the way of the future for IBM," says Frances McInerney, a Northern Business Information/Datapro analyst.

Still, such gains are small comfort compared with the damage to IBM's reputation. "The major loss for IBM is credibility," says consultant Frank Dzubeck, president of Communications Network Architects Inc. in Washington.

For Rolm, the loss is even greater. Only six years ago, it was a testament to American ingenuity. Soon, it will be one of several PBX lines sold by a German company. Because of all the turmoil, "new sales are going to be very difficult to come by," says K. Eri Schmiedeke, an analyst at Eastern Management Group. Northern Telecom says its PBX sales rose 20% in the first quarter—at Rolm's expense. Indeed, with its rivals showing no signs of slowing, Rolm's toughest days may lie ahead.

By Robert D. Hof in San Francisco, with John J. Keller in New York and bureau reports

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Developments to Watch

EDITED BY NAOMI FREUNDLICH

TOOTH PASTE, A BRUSH A DAY MAY BE ENOUGH TO STOP TOOTH DECAY



Every time you brush your teeth, you remove some of the bacterial buildup that causes periodontal disease. But since the active ingredients in toothpaste are washed away by saliva, you would have to brush your teeth six to eight times a day to protect yourself fully against receding gums.

In case you don't have time for all that dental hygiene, Synergen Inc. may have a solution. The Boulder (Colo.) biotechnology company has developed a new glue-like compound that sticks to teeth and can be mixed with the plaque-fighting enzymes that destroy the bacteria responsible for gum disease. "What we have discovered is a way to target a protein to the surface of a tooth," says Larry Soll, president of Synergen. Under an agreement signed last month, the substance, called Adhesion, is being evaluated by Colgate-Palmolive Co. If animal tests now under way are successful, Adhesion could eventually be put into a toothpaste or mouthwash that would be used just once a day.

SUPER THREESOME TEAMS UP WITH SUPERCONDUCTORS

Early this year, a Presidential advisory committee recommended the creation of consortiums to help the U.S. compete in the contest to develop high-temperature superconductors. The first such group was created in May, when IBM, AT&T, and Massachusetts Institute of Technology banded together. Then in June, Du Pont, Hewlett-Packard, and the Los Alamos National Laboratory teamed up to develop electronic applications for new ceramic materials. These conduct electricity with no loss of current at temperatures far higher than metallic superconductors.

A top priority for the three partners will be making thin film coatings to make electronic circuits for instruments, computers, and communications equipment. The joint venture will consist of at least 25 researchers and an estimated \$10 million worth of equipment and facilities.

The partners each had more than 25 years of superconductor research behind them before the discovery of the new materials. They complement each other well. Du Pont excels in discovery, synthesis, and development of materials for electronic applications. Computer and instrument maker HP has an excellent track record for applying new technology. At Los Alamos, one of three Energy Dept. labs designated pilot centers for superconductivity research and development, has expertise in materials processing, fabrication, and solid-state physics.

THIS STATE-OF-THE-HEART TEST IS EASY ON YOUR WALLET

If you suffered a heart attack tomorrow, there's a 60% chance you would have no warning. Coronary artery disease, the No. 1 killer in the U.S., often lurks silently for years before it strikes suddenly. But a new application of the posi-

tron-emission tomography (PET) scanner, an imaging system primarily used in brain research, may help doctors spot heart disease earlier than such traditional techniques as stress tests.

A PET scan, unlike X-rays or magnetic-resonance imaging (MRI), captures subtle chemical changes, such as oxygen deprivation and tissue damage, that signal a heart attack. The two-hour test is 98% accurate, according to cardiologists at the Memorial PETscan Center in Jacksonville, Fla., who are among the first to use PET scans for heart diagnosis.

The new noninvasive process is also better than cardiac catheterization, an uncomfortable and risky surgical procedure that's used to determine the extent of heart-muscle damage after heart disease has been diagnosed. That process involves running a probe through the veins into the heart. A PET scan costs \$1,800 at Memorial—less than half the cost of catheterization. So far, about 20 insurance companies have agreed to pay for the procedure.

NOW, TOXIC DIRT CAN BE LAUNDERED ON THE PREMISES

The same chemicals that clean your dirty socks may soon be cleaning soil contaminated by toxic waste. John C. Fountain and Dennis S. Hodge, two geologists at the State University of New York in Buffalo, believe that surfactants—the substances in laundry detergents that cause dirt to float off fabrics—can rinse away toxic compounds from tainted earth. Drill an array of wells on a contaminated site, inject a surfactant-and-water mixture, and toxic wastes would be flushed into the wells, making recovery easy and inexpensive.

The standard cleaning technique is excavation, which is costly because acres of bad soil must be carted to landfills. Laundering the ground, Fountain says, could slash the cost of a \$50 million excavation cleanup to only \$3 million. The pair plans to test the technique in the field next year, with funding from Bell Aerospace Textron, a division of Textron Inc., and the New York State Center for Hazardous Waste Management.

STEREOS THAT MAKE EVEN A WALKMAN SEEM WEIGHTY

Even at a beach or campsite that's far from the maddening crowd, music lovers who make a fetish of packing light should soon be able to enjoy full stereo music. Lugging a Walkman-type tape player won't be necessary



either. Now, there's plenty of room in even a lightweight headset for Motorola Inc.'s new, single-chip AM-stereo receiver and the two AA-size batteries it needs for power.

Developed by Motorola's Phoenix-based semiconductor division, the new chip crams all of the circuitry for a complete high-fidelity AM-stereo radio on a sliver of silicon. With its protective plastic housing, the one-chip radio is just slightly bigger than a paper clip. The chips will cost less than \$2 when supplied in quantity to radio makers. More than 700 radio stations in the U.S. and overseas have adopted the AM-stereo broadcast technology pioneered by Motorola, so there are fewer and fewer places where a headset radio with the new chip can't pull in music.

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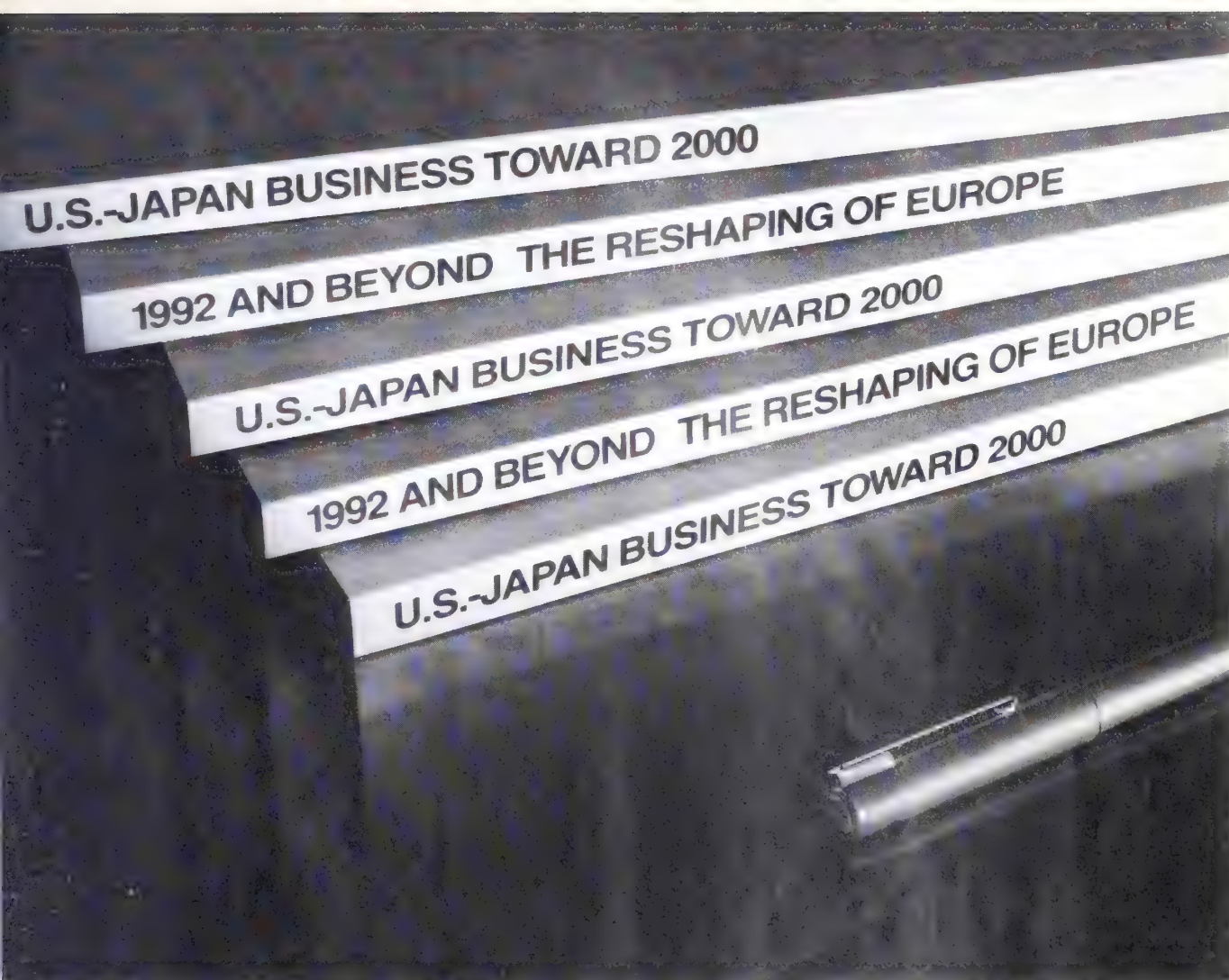


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HONEST, JAPAN WOULD LOVE TO BUY AMERICAN CHIPS . . .

But it claims U.S. companies don't make the kind it needs

'Mismatch," intoned Hiroyuki Mizuno, senior managing director of Matsushita Electric Industrial Co., at a press conference marking the conclusion of the latest round of U.S.-Japanese semiconductor trade talks. Around the roomful of mostly Japanese reporters, heads nodded sagely. That one word was all the explanation they needed to account for the dismal showing of U.S. chip producers in Japan.

But Mizuno elaborated anyhow, reciting what has become a familiar refrain. In Japan, 40% of all chips bought are for use in consumer-electronics products such as VCRs and microwave ovens, vs. just 6% in the U.S. Therefore, the Japanese contend, U.S. chipmaking skills don't meet their requirements. Never mind that American companies pioneered and currently produce at least 80% of the types of chips used by Japan's consumer-electronics industry.

Even more disheartening to U.S. executives is that the mismatch theme is often endorsed by the very Japanese officials charged with helping to spur imports of U.S.-made chips. After the trade talks, for instance, Mizuno was installed as the new chairman of the foreign semiconductor users' committee at the Electronics Industries Assn. of Japan (EIAJ). That's one reason a senior member of the Semiconductor Industry Assn. (SIA) negotiating team admits that the U.S. doesn't stand a chance of winning by 1991 the 20% share of the Japanese chip market that was stipulated in a side letter to the 1986 Semiconductor Trade Agreement.

That pledge has been a bone of contention ever since, with the U.S. rebuking Tokyo for failing to hold up its end of the bargain. The EIAJ denies that it ever did, or could, assent to a promise to deliver 20% of Japan's domestic market

to U.S. chipmakers. Retorts Charles E. Sporck, president of National Semiconductor Corp.: "Regardless of what they say, the agreement was signed by the Japanese government—and a significant number of Japanese companies knew it."

But the Japanese are far from making

U.S. producers match their chips to Japan's needs—and suggest modification to make U.S. chips more salable.

In addition, the Japan Auto Parts Industries Assn. for the first time gave a list of standard-chip specifications to the SIA and will co-sponsor, with the EIAJ, a roundtable to assist U.S. suppliers in gaining access to Japan's automotive market. The EIAJ even proposed a program to explore ways for U.S. chipmakers to get in on the ground floor of Japan's high-definition TV industry.

But some Americans worry that these new signs of cooperation may prove fleeting. They come in the shadow of threatened "Super 301" sanctions for unfair trading practices and punitive tariffs already imposed by the U.S. on certain electronic items. Moreover, "mismatch" is just the preamble to a long list of alleged drawbacks to dealing with foreign producers: negligent after-sales service and—worst of all—poor quality.

Actually, quality problems are rare in the chip business. But when examples do surface, they are rehashed endlessly by the Japanese media. Last year the press howled about a December, 1987, rocket launch that was supposedly delayed by a faulty U.S. chip. An investigation has solved the chip: It has been misused by Japan's space agency. But this hasn't deterred the retelling of the original tale.

To counter this image crisis, some Americans believe that the industry and the Commerce Dept. must mount a public-relations drive to sell Japan on U.S. products. There are success stories to trumpet. Fully 70% of all the modems in Japanese facsimile machines, for example, are supplied by Rockwell International Corp., and the quality of these parts is so reliable that most manufacturers don't bother checking them.

And the need to repair America's reputation is urgent. "We can't go on mutually exchanging their products for our real estate and capital assets," declares Robert N. Noyce, vice-chairman of Intel Corp. "We've got to convince them that they must take manufactured goods in payment for manufactured goods." But the product appeal, as U.S. chipmakers will know, isn't something that can be legislated in Washington or Tokyo.

By Neil Gross in Tokyo, with Richard Brandt in San Francisco



good. In 1988, the U.S. market share in Japan posted a slim 0.5 percentage-point gain, nudging America's slice of Japan's chip pie to 10.5%. That's less than in 1984 and way short of the chip pact's 14% goal (chart). Meanwhile, Japan's share of the American market soared to 24.3%—already more than the 20% the pact's negotiators envisioned for 1991.

AUTO MARKET. Japan's leading semiconductor users are not the main problem. Collectively, giants such as NEC Corp. now buy 20% or more of their chips from U.S. producers. "The major electronics companies in Japan are clearly trying to improve the situation," concedes Sporck. But dozens of smaller holdouts, including Sony, Sharp, and JVC, continue to shun chips with American labels.

To spur the recalcitrants, the EIAJ has formed a Consumer Electronics Task Force to promote the use of imported semiconductors. This group will help

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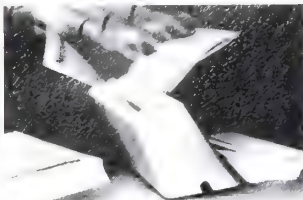
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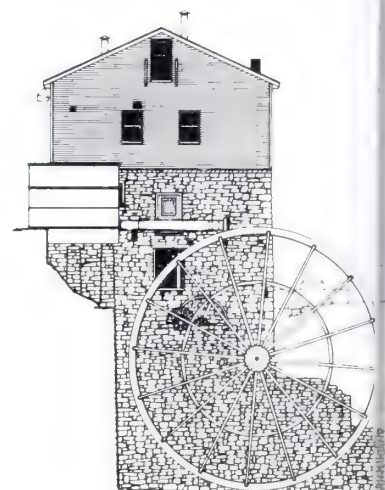
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IT'S NOT A HEART ATTACK —BUT IT MAY BE WORSE

Four years ago, Stanley W., a 65-year-old Queens (New York) accountant, thought he was suffering a massive heart attack. On a sultry July afternoon, he was standing near the backyard barbeque, talking with his children, when suddenly his heart began racing out of control. Panicking, he ran into the bathroom to splash water on his face. But within moments he blacked out and fell to the floor. Paramedics rushed him to a hospital, his life in limbo.

Stanley didn't suffer a heart attack. He was the victim of a cardiac arrhythmia—the most lethal, and probably least understood, heart condition. Arrhythmias are electrical malfunctions of the heart that suddenly make it beat erratically or send it skipping into overdrive. The condition kills 400,000 people in the U.S. each year, compared to 100,000 people who die from heart attacks. Doctors estimate that arrhythmias are responsible for two-thirds of all heart-related deaths.

DEFUSED. Only 100,000 people each year are fortunate enough to survive bouts with arrhythmia, but only if they get immediate attention. Stanley W. was one of them. Doctors suspected arrhythmia when blood tests showed that he had not had a heart attack. Near death, he was shortly transported to the pioneering arrhythmia unit at Massachusetts General Hospital in Boston. There, a staff of electrophysiologists—a new breed of cardiologists who specialize in arrhythmia research and treatment—opened up his heart. Using a computer mapping system, they spotted the exact location of the tissue affected by the ar-



rhythmia, then snipped away. Six weeks later, Stanley W. left the hospital, his arrhythmia defused. He was once again able to lead a somewhat normal life, without need for medication.

Not all arrhythmias are life-threatening. The skipping beat we all experience occasionally is inconsequential. And at least 500,000 Americans suffer from atrial arrhythmias, which affect the nonpumping chambers of the heart, or from arrhythmias caused by heart valve problems. Although discomforting, these can often be controlled by drugs.

JUMP START. Life-threatening arrhythmias attack the ventricles, the pumping chambers of the heart. When the ventricles become arrhythmic, the heart attempts to send blood to the body or lungs before it is adequately filled. The result is a drop in blood pressure, unconsciousness, and, frequently, death.

What makes arrhythmia so insidious is that they seem to strike at random. Diet and exercise do not seem to play a crucial role in causing or preventing them. While they can occur from cardiac damage, such as scarring from previous heart attacks, in at least half of the cases arrhythmias are the first sign of heart trouble. And they usually cause their damage so rapidly that their symptoms—among them heart palpitations, sweating, and dizziness—are barely felt before a person collapses. Only quick cardiopulmonary resuscitation and a countershock from a defibrillator device that delivers an electrical jolt from paddles placed on the chest—can make the heart beat normally again.

The procedure performed

Stanley W. is one of the more radical of those developed by electrophysiologists in their decade-long battle against arrhythmias. They've come up with far less invasive treatments that produce equally dramatic results. For instance, during a procedure called catheter ablation, doctors locate the site of arrhythmia using electricity-charged catheters inserted through the arm or the abdomen. Then they destroy the tissue with a targeted shock. Another technique, cryosurgery, is similar to ablation but involves freezing the site. In more advanced cases, a portable defibrillator, which coun-

tershocks an arrhythmia at the first sign that it is about to occur, can be implanted under the skin in the abdomen.

These approaches are reaping rewards. Fewer than 10% of those treated by electrophysiologists have another life-threatening arrhythmia within two years, according to studies conducted at Mass General. The more traditional treatment favored by mainstream cardiologists is to prescribe drugs without extensive patient testing. But more than 40% of these patients



have another episode within a year—and many die of it.

There is still no way to identify those who are about to suffer an arrhythmia before it occurs. But advanced electrocardiograms are in the

works that will be able to discern the most subtle electric patterns in the heart and determine when an underlying arrhythmia exists. Then, treatment can be performed in time to prevent an attack.

For more information on arrhythmia treatments, contact the North American Society of Pacing & Electrophysiology at 13 Eaton Court, Wellesley Hills, Mass. 02181. *Jeffrey Rothfeder*

BW Information Management
Editor Rothfeder's book, *Heart Rhythms* (Little, Brown), was published last January.

You've picked out your dream-mobile, complete with air-conditioning and compact disk player—and even managed to negotiate a good deal. But the salesman isn't through with you yet. He's pushing options on rust-proofing to mudflaps to extended service contracts. Do you really want all this stuff? Want? Maybe. Need? Probably not. The first rule: Don't be forced into anything. Salespeople aggressively push margin options, including extended warranties. But with deals bulging, you don't have to pay for an unwanted option to get the model you want. In Massachusetts, it's against the law for a dealer to force you to take an option to get the vehicle you want. Consumers should be

Autos

CAR OPTIONS: WHY YOU SHOULD KICK THE TIRES—HARD



make the decision on what to buy is theirs," says Robert J. Evans, head of the Consumer Protection Div. of the state Attorney General's office.

Here's a guide to some of the more common offerings:

Rust-proofing. By far the most often recommended option, rust-proofing is also the most controversial. Certainly, a careful rust-proofing job can add years to the life of a used car. But carmakers have made tremendous gains in anticorrosion in re-

cent years, and many of today's new cars just don't need the extra treatment, which runs about \$200. In fact, General Motors advises against additional rust-proofing on any of its cars—and cautions that an improperly applied rust-proofing can actually make your car rust faster.

Paint and fabric protection. These claim to shield your car's paint and interior, respectively, from scrapes or drips. These options, too, are becoming standard. GM's new

Lumina family sedans and minivans, which are expected to haul kids with ice cream cones, come with Scotchgard fabric protector as a standard feature. Unlike rust-proofing, you can apply a paint sealant or fabric protector yourself easily and inexpensively.

Pinstripes. These and other small options such as mud flaps, door-edge guards, and engine sound shields can add hundreds of dollars to your car's price. Like them? Buy 'em. But you might weigh the

convenience of buying from your dealer against the almost-always-lower cost of going to an independent specialty auto parts store. The same holds true for security systems, a must in some areas.

Extended warranties. Dealers offer a variety of car repair insurance. Extended service contracts and mechanical breakdown insurance are most common. The latter can be a relief when you're stranded on a lonely road, but if you belong to a motor club, you're probably already covered. Most factory warranties cover the powertrain: engine, drive shaft, and transmission. Bumper-to-bumper policies cover every little problem, but deductibles can be as high as \$100 per visit.

If you're undecided between two cars but want thorough coverage, compare the total cost of one car that has a bumper-to-bumper factory warranty with that of another car with a less extensive warranty. Then see what it costs to make the coverage equivalent. Optional coverage is sometimes more expensive when bought separately, sometimes less. If you decide to go with an extended service contract, many dealers say you might be most satisfied with a factory policy rather than one from an independent concern. *Jim Treece*

Smart Money

A FUTURE? A STOCK? OR JUST A GOOD, CHEAP HEDGE?

Am I investing in securities or taking a flier in futures? That's the question to ask if your broker tries to sell you the index participations (IPs) that the American and Philadelphia Stock Exchanges began offering in May. But your broker cannot know for sure, because the industry is embroiled in what could be a lengthy legal battle over the status of this hybrid.

Basically, IPs are a response to the Brady Commission report on the '87 crash. The panel proposed an instrument that would create a link between futures and stocks, one that would follow broad stock market movements without adding to market volatility. IPs were the result.

Index participations are the subject of a legal battle

The Amex calls them Equity Index Participations (EIPs), and the Philadelphia Stock Exchange calls them Cash Index Participations (CIPs). The Chicago Board Options Exchange, which hasn't yet begun trading, calls them Value of Index Participations (VIPs).

Unlike index options and futures, whose prices have a life of their own, the value of an IP is directly tied to the Standard & Poor's 500-stock index or the 30-stock Dow Jones industrial average. The standard unit of trading is 100 IPs, and each IP is equal to 1/10 of the index value. That means if the S&P index is 327, the unit value is \$32.70, which means you'd pay \$3,270 for a round lot.

Like stock, IPs can be

bought on margin with 50% down, have no expiration dates, and generate quarterly cash dividend equivalents. They yield as much (about 3%) as the stocks in each index—the money is debited from the accounts of those who are short IPs.

NO FEES. What's the advantage of an IP over a mutual fund? "This is the cheapest and easiest way that the retail investor can hedge," says Bob Gordon, president of Twenty-First Securities, who helped the Philadelphia Exchange develop the CIP. IPs are cheaper than mutual funds since there are no custodial or management fees. Besides, brokerage houses are using the same commission schedules that they apply to options, so the cost is about 10% less than what you would pay to trade a stock.

So far, most of the trading in IPs has been done by specialists and market makers. But Michael Schwartz, senior vice-president and options strategist at Oppenheimer, says that some of his "more adventurous" retail clients are also buying them. Meanwhile, big houses like Merrill Lynch and Shearson Lehman Hutton are waiting to see how the courts resolve the dispute before they start marketing IPs to their retail customers, while others, including Kidder Peabody, J.C. Bradford, Baird, Patrick, Gruntal, and Blunt Ellis & Loewi, are taking orders.

Should the courts decide that the IP is a futures contract and not a security, the experiment likely will end. The exchanges say they'll allow time for everyone to get out. Still, it may be worth waiting until the courts determine the true nature of this beast before you invest.

Laura Zinn



Collecting

CRACKING THE CRYPTIC CODE OF THE AUCTION WORLD

In art, as in life, things are seldom what they seem. Especially in art. Auction catalogs brim with adjectives that take on special meaning when used to describe pricier paintings, jewelry, furniture, and other objets d'art.

A Ming vase, for example, may be "important." Another piece of Chinese porcelain is "highly important." Still another is "rare," or "fine," or even "magnificent." In conversation you might hear something else described as "museum quality." But is that better than "important," "rare," or "fine"?

Call it "auction talk"—a cryptic code the art world uses to separate the (dare we say) important pieces from the merely ordinary. There is a definite hierarchy of adjectives starting out with "fine" on the low rung and moving up to "important," "highly important," and "magnificent" (a.k.a. "superb"). On that end of the spectrum, things can get very expensive. These days, for example, a magnificent white diamond would probably weigh more than 20 carats and cost more than \$1 million, says Christie's jewelry expert Russell Fogarty.

But that doesn't mean a magnificent piece of jewelry is of the same quality, let

alone price, as, say, a magnificent piece of furniture. Terms have different meanings for different categories—and even when used within the same one can maddeningly imprecise.

An 18th-century chest may be "important" because it is one of the few remaining of that particular type, but it may not be in perfect condition. On the other hand, an important Impressionist or modern painting would probably be one of the artist's great works.

Art experts save their most colorful definitions for "magnificent." In Chinese ceramics, a magnificent piece would be "so extraordinary it takes your breath away," says Sotheby's expert Mee Seon Look. Christie's American furniture expert Dean Failey says magnificent means "this will knock your socks off."

Other labels fall outside the hierarchy. "Unusual" is equivalent of calling a ba "interesting," while a "museum quality" piece is the sort of respected museum might display. And watch out for "rare," which usually enhances value, except in paintings, where collectors prefer works that are typical of an artist's work. The moral: These adjectives are not the last word. Judy Dobryzn



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Becoming fluent in a foreign language can take years of study and practice. But if you need a working knowledge fast, language "immersion" programs are a timely alternative. Intensive programs promise a solid grasp of a language in as little as a few weeks—and you may even enjoy it.

The best of these learn-athons are worlds away from the tedious drills and parroting of phrases that you suffered in high school. But each program does have its own philosophy. The most widely known language school is

Education

DIVING RIGHT INTO A NEW LANGUAGE

specific business. The all-day "crash intensity program" runs five or six days a week for two to five weeks (\$2,500 for 10 days).

The Michel Thomas Language Center in New York (212 972-5588) takes a different approach. Much of the instruction is in English and concentrates on giving a

of the intensive summer language courses offered by many colleges and universities. Middlebury College in Vermont has one of the most popular programs (802 388-3711). The school offers seven-week sessions in French, German, Italian, and Spanish, as well as nine-week courses in Arabic, Chinese, Japanese,

students are encouraged to speak in the new tongue as much as possible.

Instructors use overblown, theatrical flair to encourage inhibited adults to blurt out whatever they want to say. The method combines textbook work and rigorous drills. Says Rassias: "We encourage people to make mistakes."

IN SITU. But studying the language in the host country is the best way to learn. Berlitz "study abroad" programs offer travel and study packages in Spain, France, and Germany. The "maximum intensity program" offered



Berlitz (800 528-8908). But there are plenty of others, and each lends a slightly different accent to the approach.

The Berlitz method has students hear and speak only the language being studied, so you'll start thinking in the language and learn the grammar simply by using it. Its "total immersion program" plunges students into two to six weeks of 9 a.m. to 6 p.m. days. By the end of a minimum course (12 days and \$4,260) "you can't negotiate a business deal, but you'll have a strong basis in social conversation," says Patricia Sze, Berlitz's marketing director.

NO ENGLISH. Another well-known program is run by *lingua* (212 682-8585), which specializes in language training for business and industry. Here, too, no English is spoken. The focus is on terms you need to know for your

sense of the framework and syntax of the language. Students focus on learning to express their own thoughts. "Rote learning is too surface," says Thomas. "It's like cramming for a test, and then you forget it."

Lessons are structured in 8-hour days of intensive tête-à-tête and interactive work with a tape recorder. A 10-day private course is \$4,200. Thomas promises proficiency by the end of the course. Refresher courses are free.

If you are already thinking ahead to a long vacation next year, you might consider one

and Russian. The courses are taught in the language of study, and participants must sign a formal pledge that they won't lapse into English for the duration of the program, both in class and in the dormitories where they live and eat with their group. Lessons last for four hours in the morning, and there are five to seven hours of homework each day.

Dartmouth College's acclaimed immersion program uses the method developed by Professor John Rassias. The 10-day, \$1,200 course takes place on the college's bucolic Hanover (N. H.) campus, and

lingua is available in many countries.

You might opt for a school that focuses on only one language. The Munich-based Goethe Institute (212 92-3960) has 16 locations in West Germany where you can take an eight-week "compact course" in German (about \$7,800, which includes lodging and meals). Then there's the Institut de Français in Villefranche, near Monte Carlo (93 01 88 44). A four-week, \$2,500 course mixes the rigors of the language lab with the ambience of the Riviera.

Suzanne Woolley, with Katie Hafner

Worth Noting

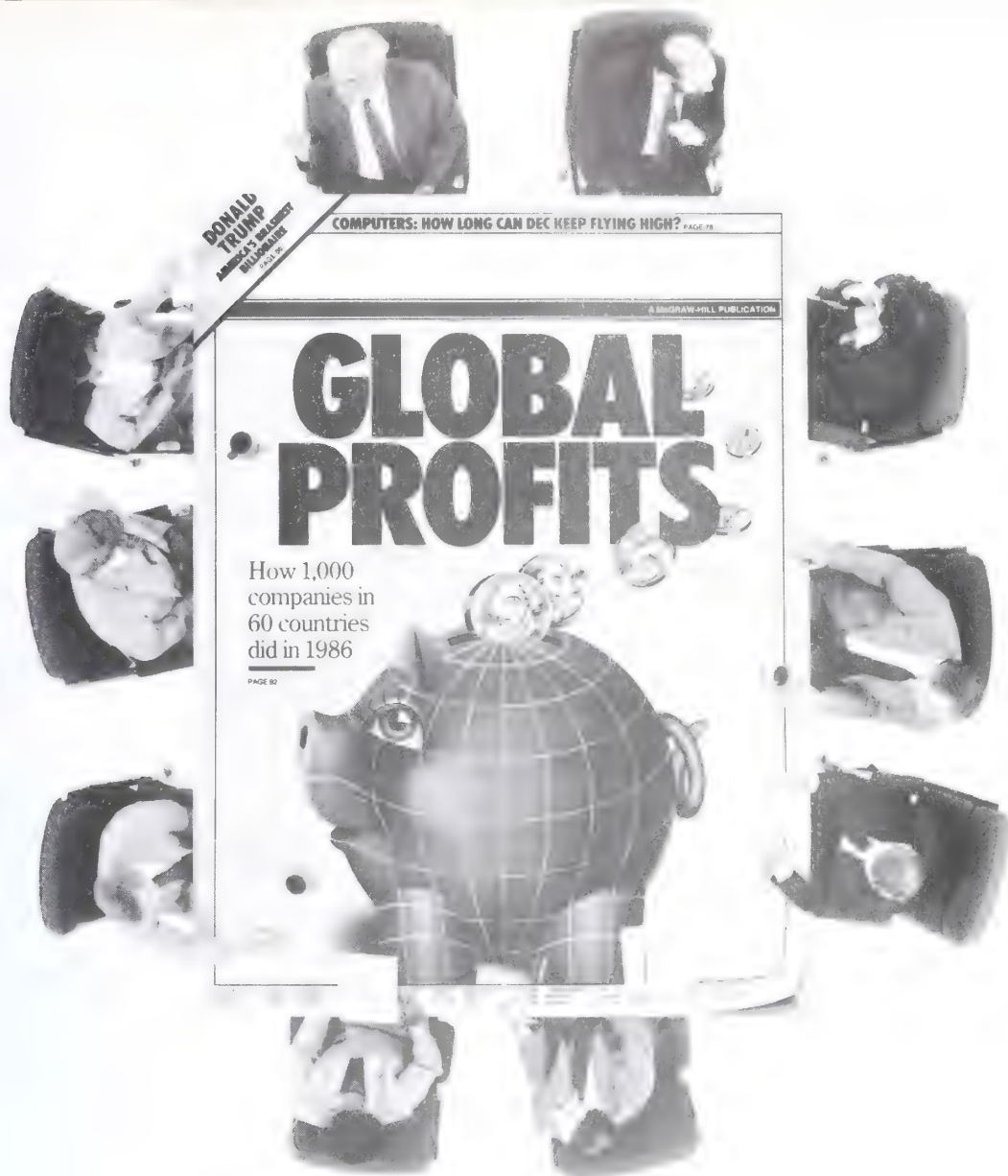
■ **TAPE TIP.** By yearend, many classic and recent movies on videocassette will be available for less than \$10, says industry watcher Seth Goldstein. With new high-

speed equipment, duplicators can make copies in extended-play mode, so a film needs one-third as much tape.

■ **BUYING GREEN.** Seventh Generation's environmentally correct catalog includes biodegradable diapers (32 for \$50) and garbage bags

(30 for \$10); 802 862-2992.

■ **SOUND STATUS.** Marking the 10th anniversary of the Walkman personal stereo, Sony is producing 2,000 silver-plated models priced at \$650. They come with a 10-year ownership card signed by Sony CEO Akio Morita.



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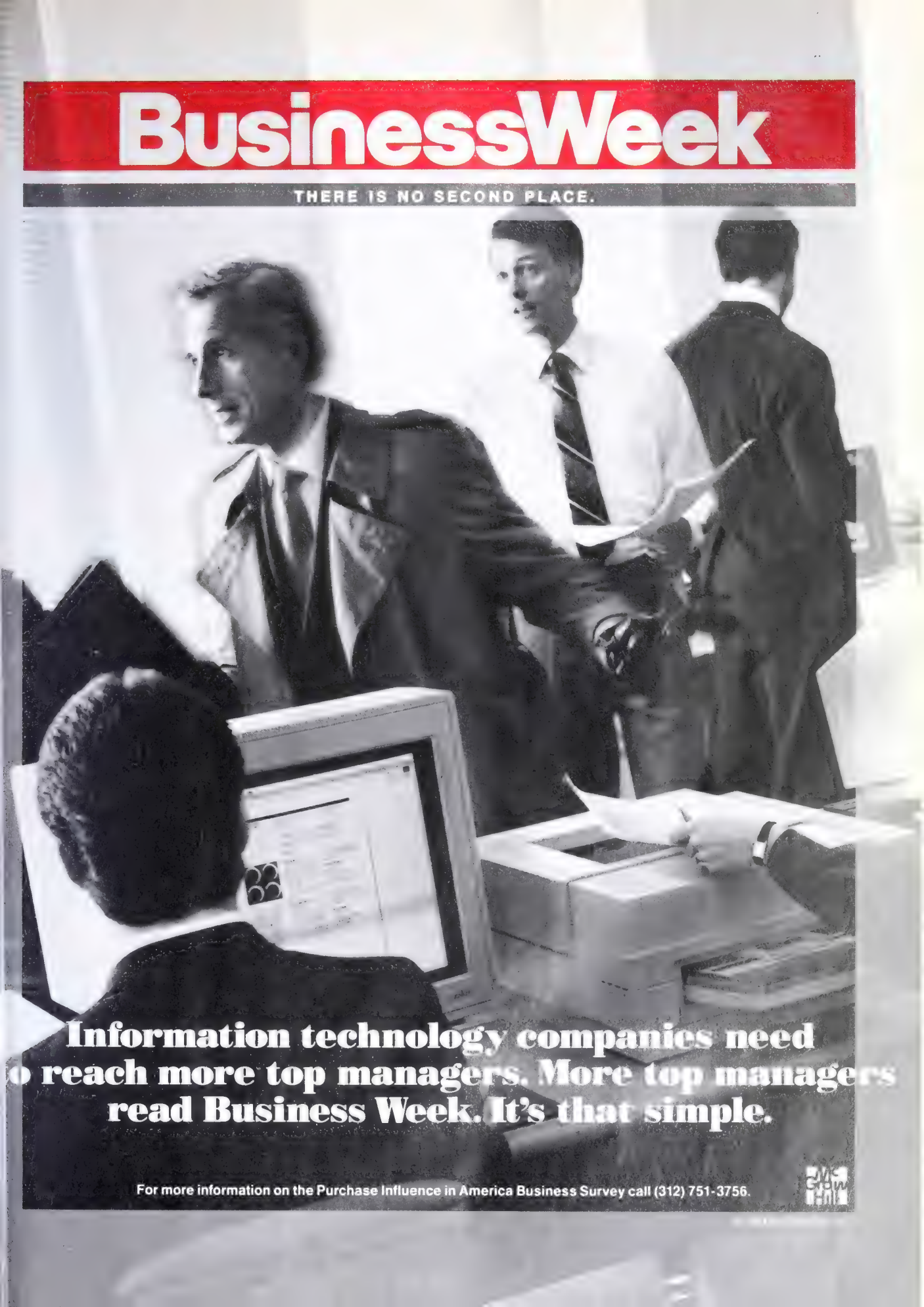
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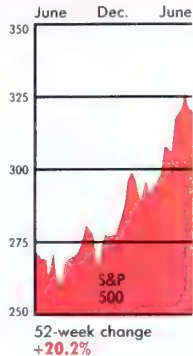
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Investment Figures of the Week

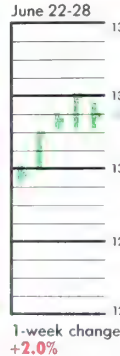
COMMENTARY

Week of ecstasy and agony in financial markets, which were spawed by economic events. Program trading added to the volatility among equities. Bonds held steady, and the Dow Jones industrial average rose almost 50 points on June 23, as a reported decline in durable goods orders fueled speculation that interest rates were on the wane. But profit-taking and sell programs sent the market lower on June 26 and small-company stocks trailed large-cap issues.

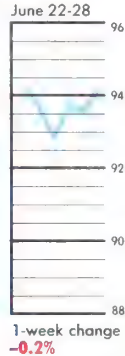
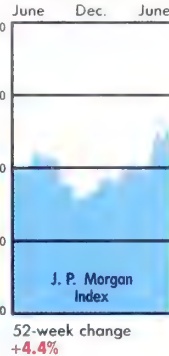
STOCKS



BONDS



THE DOLLAR



MARKET ANALYSIS

U.S. STOCKS

	Latest	% change Week	% change 52-week
DOW JONES INDUSTRIALS	2504.7	1.6	18.0
COMPANIES (Russell 1000)	172.4	1.4	19.7
ALL COMPANIES (Russell 2000)	170.8	0.3	14.2
COMPANIES (Russell 3000)	185.0	1.3	19.3

FOREIGN STOCKS

	Latest	% change (local currency) Week	% change (local currency) 52-week
LONDON (FINANCIAL TIMES 100)	2209.4	1.7	19.1
TOYO (NIKKEI INDEX)	33,245.6	-0.3	20.4
TORONTO (TSE COMPOSITE)	3766.6	1.0	9.8

FUNDAMENTALS

	Latest	Week ago	Year ago
90-DAY TREASURY BILL YIELD	8.3%	8.4%	6.8%
30-YEAR TREASURY BOND YIELD	8.1%	8.3%	8.9%
S&P 500 DIVIDEND YIELD	3.4%	3.5%	3.6%
S&P 500 PRICE/EARNINGS RATIO	12.7	12.5	14.6

TECHNICAL INDICATORS

	Latest	Week ago	Reading
S&P 500 26-week moving average	301.5	299.6	Positive
Stocks above 26-week moving average	68.0%	67.7%	Neutral
Speculative sentiment: Put/call ratio	0.23	0.25	Negative
Insider sentiment: Vickers sell/buy ratio	2.04	2.00	Neutral

INDUSTRY GROUPS

4-WEEK LEADERS

	% change 4-week	% change 52-week
HOTELS AND MOTELS	14.3	50.4
PUBLISHING	13.8	34.7
OLD MINING	10.6	-3.0
HOMEBUILDING	10.4	53.6
BROADCASTING	10.1	54.5

4-WEEK LAGGARDS

	% change 4-week	% change 52-week
RECREATION TIME	-9.5	4.8
PAPER CONTAINERS	-7.6	-2.8
MACHINE TOOLS	-5.8	-15.7
COMMERCIAL SERVICES	-4.3	2.5
HEALTH CARE SERVICES	-4.2	-14.2

Strongest stock in group

	% change 4-week	% change 52-week	Price
HILTON HOTELS	24.5	101.2	102 1/8
HARCOURT BRACE JOVANOVIH	55.1	53.2	15 1/8
NEWMONT MINING	14.7	-4.5	40
KAUFMAN & BROAD	22.9	66.7	18 1/8
LIN BROADCASTING	19.6	96.4	123 3/4

Weakest stock in group

	% change 4-week	% change 52-week	Price
HANDLEMAN	-14.0	44.6	30
STONE CONTAINER	-15.0	-25.6	26 1/8
MONARCH MACHINE TOOL	-10.0	-18.2	16 7/8
NATIONAL EDUCATION	-23.7	-46.0	16 1/8
BEVERLY ENTERPRISES	-7.1	30.0	8 1/8

BRIDGE INFORMATION SYSTEMS INC.

MUTUAL FUNDS

LEADERS

	%
4-week total return	
STRATEGIC INVESTMENTS	12.5
UNITED SERVICES GOLD SHARES	12.0
INTERNATIONAL INVESTORS	9.7

	%
52-week total return	
AUFMANN	53.7
FIDELITY SELECT BROADCAST & MEDIA	50.1
DELAWARE GROUP TREND	44.9

LAGGARDS

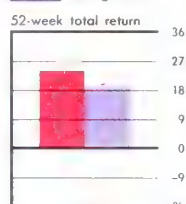
	%
Four-week total return	
FIDELITY SELECT SOFTWARE & COMPUTER	-5.8
TYNDALL-NEWPORT GLOBAL GROWTH	-5.3
FIDELITY SELECT COMPUTERS	-4.7

	%
52-week total return	
STRATEGIC GOLD/MINERALS	-21.4
SLH PRECIOUS METALS & MINERALS	-19.0
FINANCIAL STRATEGIC GOLD	-18.0

S&P 500



Average fund



MORNINGSTAR INC.

RELATIVE PORTFOLIOS

Amounts represent the present value of \$10,000 invested one year in each portfolio

	U.S. stocks	Foreign stocks	Treasury bonds	Money market fund	Gold
Investment amount	\$12,385	\$12,013	\$11,967	\$10,694	\$8,488
Percentage increase	+2.24%	+2.75%	+1.99%	+0.16%	+2.63%

Data on this page are as of market close Wednesday, June 28, 1989, unless otherwise indicated. Industry groups include S&P 500 companies only; performance and share prices are as of market close

June 27. Mutual fund returns are as of June 23. Relative portfolios are valued as of June 27. A more detailed explanation of this page is available on request.

DATA RESOURCES INC.

REWARD PRAGMATISM IN LATIN AMERICA

Latin America is crumbling. After a decade of scrambling just to pay debt bills, the region is decapitalizing: Its infrastructure is rusting out, telephones don't work, and energy outages are commonplace. Argentina, Brazil, Mexico, and Venezuela are in danger of slipping from their status as developing Third World nations into a new category that could be called the Undeveloping World. The First World has a stake in helping to prevent this.

Surprisingly, the current economic crisis has not pushed Latin America's leaders into ideological bunkers. Instead it has created a new pragmatism. From Carlos Saúl Menem in Argentina to Carlos Salinas de Gortari in Mexico, leaders are casting aside dogma from the past. The challenge: to come up with development strategies that create wealth and spread some of it around. The new pragmatism comes from a clear consensus that extreme solutions have failed.

Foreign investors, for example, used to be greeted warily. There was good reason, what with the familiar history of big companies running small countries, spawning the term banana republic. But now the pragmatists are figuring out that they can keep the crown jewels—maintaining control of strategic assets—but open the door to everything else. In Mexico's newly revamped foreign-investment rules, for example, the government holds onto control of the state oil monopoly Pemex but is offering foreigners petrochemical concessions and big pieces of the national airlines and telecommunications business. Other countries, even social-democratic Jamaica and Venezuela, are doing likewise.

Now is the time for a response from the industrialized world. It was the creditor nations that encouraged Latin America to become more market-oriented, holding out the promise of rewards and understanding if they did. Thus far, the creditors have failed to live up to the deal. Washington and the commercial banks are at an impasse over whose responsibility it is to reduce debt. The Brady Plan is only a half measure, with little money behind it. The White House, with the support of other G-7 nations, needs to take the lead and press for legal and regulatory changes that liberalize rules for writing down debt. Without such action, the moment for the pragmatists to the south could be lost for good.

TEAMS THAT SCORE BIG ON PRODUCTIVITY

Worker participation, which now toils under the sobriquet "employee involvement," has a controversial history in the U.S.—in sharp contrast to the esteem it commands in Japan and Western Europe. Here, the labor movement has tended to regard EI as a device for busting unions. And even among academics, there has been contention whether the technique has any practical impact on productivity.

But new evidence is coming in that shows that EI, in a uniquely American structure based on self-managing work teams, can have a massive impact on productivity (page 56). In plants that employ such an approach, members are cross-trained to perform all tasks, so slowdowns from absenteeism are reduced. Flexibility is the name of the game.

At General Electric Co.'s Salisbury (N.C.) plant that assembles lighting panelboards, productivity increased a remarkable 250% over GE plants that made the same product in 1985. Because of results such as this, the team idea has been adopted by other U.S. companies, including Procter & Gamble, General Motors, Ford, LTV Steel, Boeing, and Champion International. At GE itself, the goal is to have 35% of the work force in teams by the end of 1989.

If the U.S. is to regain its place in the manufacturing nation big leagues, the productivity gains possible from flexible work practices and from workers' willingness to move from job to job are going to be a key. If it can be shown that there is a relationship between productivity gains and the new teamwork concept, then the federal government should promote teamwork as a matter of national policy. On an immediate, practical level, the substantial tax advantages for ESOPs should be made contingent on worker participation.

A PAY HIKE MIGHT MAKE CONGRESS MORE ETHICAL

Good ideas have a way of overcoming seemingly insurmountable obstacles. Let's hope that happens with renewed efforts by President George Bush and House Speaker Thomas S. Foley (D-Wash.) to enact a congressional pay raise. The raise would come as a trade-off for new restrictions on the outside income that lawmakers receive from special interests. The restrictions are sorely needed to reduce conflict of interest in Washington. And such action will free up a badly needed pay raise for federal judges and senior government officials who increasingly view public service as a monastic vow they're not interested in keeping.

There's reason to hope a deal can be struck. Congress is desperate to rid itself of the scandals surrounding former Speaker Jim Wright (D-Tex.) and former Democratic Whip Tony Coelho (D-Calif.), who resigned in disgrace over the shameless pursuit of outside income. And rather than trying to sneak a pay raise through—Congress' traditional way of raising its salary—Foley is methodically promoting the idea in public forums. He wants the pay raise phased in and special-interest money phased out as part of a larger ethical reform package. And the Speaker is willing to raise federal salaries first and let the congressional salary hikes go into effect after an intervening election.

This is a fresh, new approach. Good people in government are demoralized and getting out fast. Talented people in the private sector sneer at public service. Congress is legally on the take, and America is more cynical than ever about its institutions. It's a sad state of affairs, yet a few good ideas could fix it. This is one of those good ideas.

BusinessWeek

JULY 17, 1989

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CAPTAIN COMEBACK

TED TURNER

Back from the brink, he's thinking big again

PAGE 78



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It's a story Steve Jacobs hates to remember, but loves to tell...

His Steelcase[®] dealership, Stevens Office Interiors in Syracuse, was just days away from finishing a project for the New York Power Pool in Guilderland, when somebody realized they'd ordered \$24,000 worth of components—everything from binder bins and lights to workstations in the wrong paint color.

Jacobs was beside himself. Absolutely had to do the installation on time. Could see his customer walking their contract right out the door. Just knew he'd end up eating the job.

At 8:01 the next morning, he called Dealer Services in Grand Rapids. Martha O'Connor picked up the call. She winced. "Your order is being manufactured in *five* different plants,

some of the parts are already on trucks, *and* it's New Year's Eve. But," she added, "I'll see what I can do."

Martha called back in a couple of hours. Three of the plants had already started the repainting, and the trucks were being off-loaded.

The whole order shipped out in the right color on January 2nd, a day ahead of schedule.

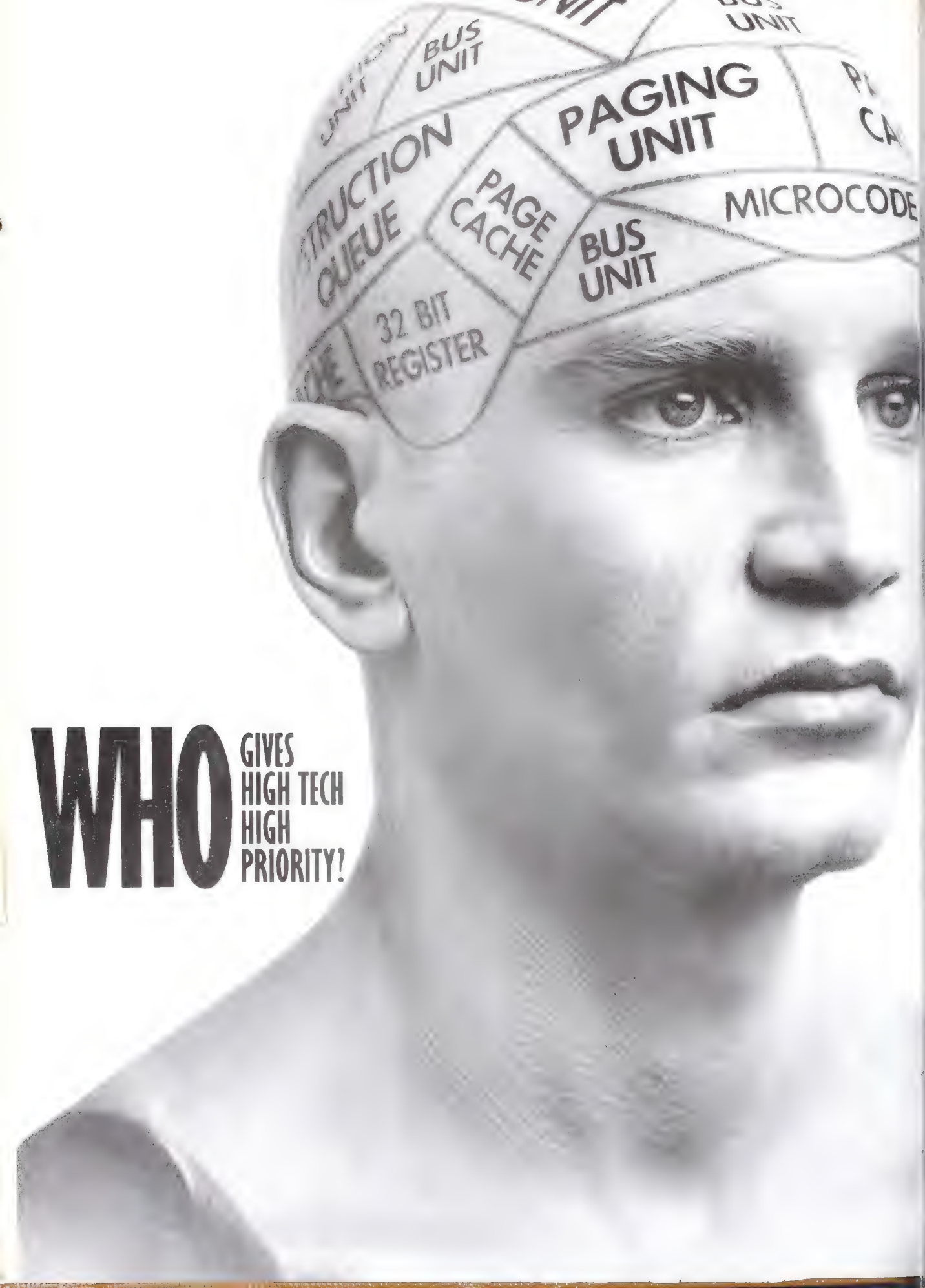
Jacobs thanked his lucky stars he was a Steelcase dealer.

Thanked Martha. Wrote her boss...

"The amazing thing is," he recalls, "Martha didn't have any direct authority. But when she called the plants and said, 'We have a dealer who has a problem and that means we have a problem. Our customer needs help,' people said, 'No problem, we'll do it.'"

Was it a Happy New Year? You bet.

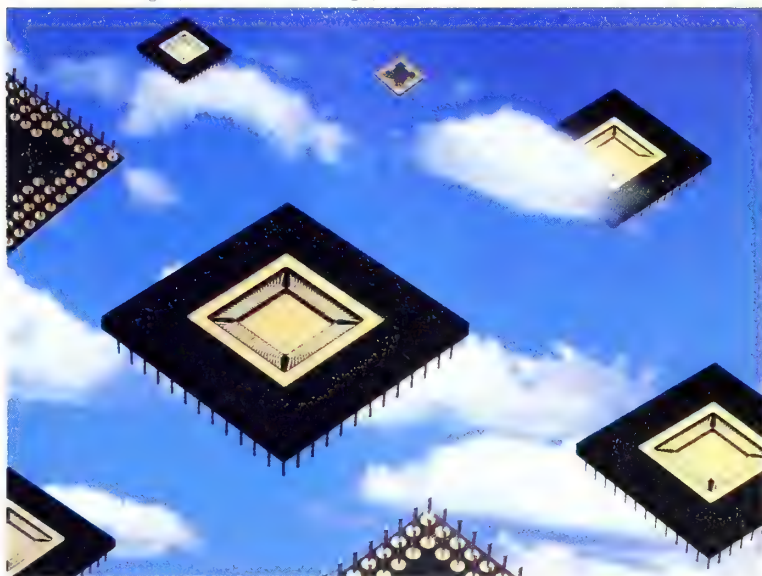
Happy New Year.



WHO GIVES
HIGH TECH
HIGH
PRIORITY?

Daewoo's innovative minds have put Daewoo right at the frontier of the new technology. This is particularly true with computers. Daewoo recently built a major facility to manufacture a highly advanced computer chip. The fact is, Daewoo invests a large part of its earnings not only in the R&D to develop a better product, but in the manufacturing technology that will deliver that better product. By placing a big emphasis on innovation, Daewoo has, in just over 20 years, become a leader in such diverse industries as computers and heavy machinery, aeronautics and automobiles, shipbuilding and telecommunications. Find out how Daewoo's innovative minds can help your company to grow.

Daewoo's wide range of innovation includes highly advanced computers



DAEWOO

THAT'S WHO!



A TED TURNER CUTOUT AND ICONS FROM HIS SCREENS AND TEAMS GREET FANS AT CNN HEADQUARTERS. CAN HE KEEP VIEWERS SMILING?

Cover Story

98 CAPTAIN COMEBACK

After paying \$1.4 billion for MGM in 1986, Ted Turner nearly buried his company under a mountain of debt. But a \$568 million helping hand from a group of cable operators and the smashing success of TNT network's old MGM movies have helped put his empire on the path to financial stability. Now he's planning new shows for TNT, global expansion for CNN, and more. Stay tuned

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Economic coordination slips as domestic matters take precedence

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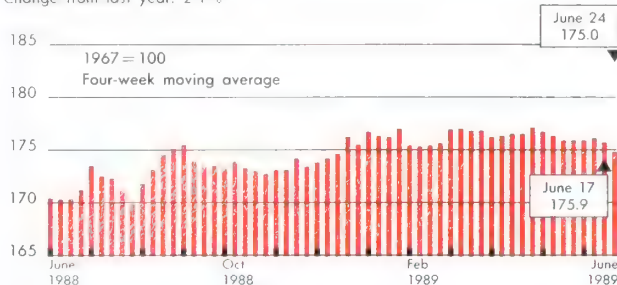
Marching backward on abortion
How to regulate cable TV operators
Stark proof of Japan's muscle

BusinessWeek Index

PRODUCTION

Change from last week: -0.5%

Change from last year: 2.1%



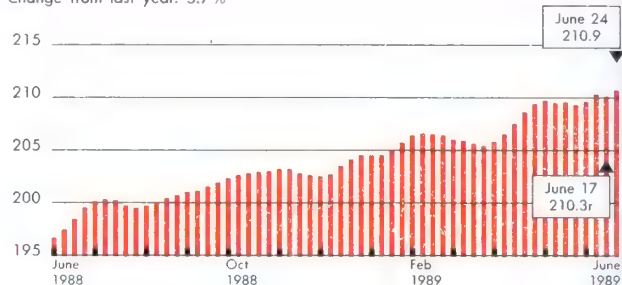
The production index fell for the week ended June 24, dropping to its lowest level since December, 1988. On a seasonally adjusted basis, output of coal, trucks, autos, paper, and rail-freight traffic declined. Electric power and crude-oil refining output increased. Production of steel and paperboard was unchanged from the previous week. Before calculation of the four-week moving average, the index rose to 174.3 from 173.7 for the prior week.

BW production index copyright 1989 by McGraw Hill Inc.

LEADING

Change from last week: 0.3%

Change from last year: 5.7%



The leading index increased modestly for the week ended June 24, as the index continues to rebound after its sluggish performance in May. Faster growth in real estate loans and materials prices offset the negative signals given by lower stock prices, higher bond yields, an increase in the number of business failures, and slower growth in M2. Before calculation of the four-week moving average, the index rose to 211.6 from 211.4 in the previous week.

Leading index copyright 1989 by Center for International Business Cycle Research

PRODUCTION INDICATORS

	Latest week	Week ago	% Change year ago
STEEL (7/1) thous. of net tons	1,844	1,881 #	0.7
AUTOS (7/1) units	127,175	141,086r #	66.4
TRUCKS (7/1) units	78,723	81,709r #	95.2
ELECTRIC POWER (7/1) millions of kilowatt-hours	58,699	58,148 #	4.0
CRUDE-OIL REFINING (7/1) thous. of bbl./day	14,157	13,994 #	4.9
COAL (6/24) thous. of net tons	16,906 #	18,237	-5.6
PAPERBOARD (6/24) thous. of tons	768.4 #	765.8r	6.7
PAPER (6/24) thous. of tons	723.0 #	718.0r	-1.6
LUMBER (6/24) millions of ft.	522.9 #	506.8	11.7
RAIL FREIGHT (6/24) billions of ton-miles	18.6 #	18.9	-4.1

Sources: American Iron & Steel Inst., Ward's Automotive Reports, Edison Electric Inst., American Petroleum Inst., Energy Dept., American Paper Inst., WWPA¹, SFPA², Association of American Railroads

FOREIGN EXCHANGE

	Latest week	Week ago	Year ago
JAPANESE YEN (7/5)	138	143	132
GERMAN MARK (7/5)	1.88	1.96	1.82
BRITISH POUND (7/5)	1.62	1.56	1.71
FRENCH FRANC (7/5)	6.39	6.66	6.13
CANADIAN DOLLAR (7/5)	1.19	1.20	1.21
SWISS FRANC (7/5)	1.61	1.69	1.52
MEXICAN PESO (7/5) ³	2,508	2,501	2,300

Sources: Major New York banks. Currencies expressed in units per U. S. dollar, except for British pound expressed in dollars.

PRICES

	Latest week	Week ago	% Change year ago
GOLD (7/5) \$/troy oz.	383.600	373.750	-12.2
STEEL SCRAP (7/3) # 1 heavy, \$/ton	114.50	114.50	-4.6
FOODSTUFFS (7/3) index, 1967 = 100	227.2	226.0	-11.0
COPPER (7/1) ¢/lb.	113.7	118.8	1.3
ALUMINUM (7/1) ¢/lb.	85.8	88.8	-31.1
WHEAT (7/1) # 2 hard, \$/bu.	4.36	4.35	13.0
COTTON (7/1) strict low middling 1-1/16 in., ¢/lb.	65.75	64.67	7.7

Sources: London Wed. final setting, Chicago mkt., Commodity Research Bureau, Metals Week, Kansas City mkt., Memphis mkt.

Raw data in the production indicators are seasonally adjusted in computing the BW index (chart); other components (estimated and not listed) include machinery and defense equipment
¹ = Western Wood Products Assn. ² = Southern Forest Products Assn. ³ = Free market value NA = Not available r = revised NM = Not meaningful

LEADING INDICATORS

	Latest week	Week ago	% Change year ago
STOCK PRICES (6/30) S&P 500	323.70	322.78	19.
CORPORATE BOND YIELD, Aaa (6/30)	9.02%	9.09%	-8.
INDUSTRIAL MATERIALS PRICES (6/30)	104.6	105.0	4.
BUSINESS FAILURES (6/23)	254	235	8.
REAL ESTATE LOANS (6/21) billions	\$329.1	\$328.0r	14.
MONEY SUPPLY, M2 (6/19) billions	\$3,083.4	\$3,079.8r	2.
INITIAL CLAIMS, UNEMPLOYMENT (6/17) thous.	333	326	8.

Sources: Standard & Poor's, Moody's, Journal of Commerce (index: 1980 = 100), Dun & Bradstreet (failures of large companies), Federal Reserve Board, Labor Dept. CIBCR seasonally adjusts data on business failures and real estate loans.

MONTHLY ECONOMIC INDICATORS

	Latest month	Month ago	% Change year ago
CONSTR. SPENDING (May) annual rate, billions	\$421.3	\$415.9r	5.
MANUFACTURERS' INVENTORIES (May) billions	\$365.5	\$363.5	7.
MANUFACTURING SHIPMENTS (May) billions	\$233.5	\$234.0	8.
AGRICULTURAL PRICES (June) index, 1977 = 100	146	149	5.

Sources: Census Bureau, Commerce Dept., Dept. of Agriculture

MONETARY INDICATORS

	Latest week	Week ago	% Change year ago
MONEY SUPPLY, M1 (6/19)	\$768.3	\$769.6r	-1
BANKS' BUSINESS LOANS (6/21)	316.0	316.5r	4
FREE RESERVES (6/28)	297	452r	-45
NONFINANCIAL COMMERCIAL PAPER (6/21)	127.9	124.1r	36

Sources: Federal Reserve Board (in billions, except for free reserves, which are expressed in a two-week period in millions)

MONEY MARKET RATES

	Latest week	Week ago	Year ago
FEDERAL FUNDS (7/3)	9.49%	9.55%	7.81
PRIME (7/5)	11.00	11.00	9.00
COMMERCIAL PAPER 3-MONTH (7/3)	9.05	9.09	7.59
CERTIFICATES OF DEPOSIT 3-MONTH (7/5)	9.05	9.20	7.67
EURODOLLAR 3-MONTH (6/28)	9.31	9.30	7.69

Sources: Federal Reserve Board, First Boston

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HOW DETROIT CAN STOP SPINNING ITS WHEELS

I would be willing to bet my new 1989 Jeep that many of your readers who recently purchased a new auto or truck would agree with your article 100% ("Detroit tries to rev up," Cover Story, June 12). Detroit auto makers may be putting out a better product, but if dealers are turning off customers, to what avail is Detroit's quality renaissance?

Those dealers who treat their customers with respect and courtesy after they make their purchase will reap the benefits of repeat business and customer goodwill. Those who persist in taking customers for granted will eventually find empty showrooms.

Dan R. Schipper
Parma, Ohio

Motor City needs to jump-start more than just its marketing, as you imply. Despite recent improvements, domestic autos still lag behind imports in design and quality. The Japanese bring out trouble-free models every four years, while many American cars are still problematic after they have been in production for more than twice that time.

For example, General Motors Corp.'s Chevrolet Caprice is in its 13th year of production, yet it has a poor reliability record. GM's upcoming 1990 Lumina van has its stunning styling undercut by undistinguished mechanicals that are nearly a decade old. Chrysler Corp.'s lineup is based on the aging K-car chassis. And even Ford Motor Co., whose Taurus design redefined the American car, has had problems with its new Thunderbird.

Further, it takes Detroit almost double the time to develop a new model as its Asian counterparts. Without some serious rethinking and judicious restructuring, the new products that are needed for a renaissance in Detroit will continue to be outdated and flawed, and no amount of advertising will convince shoppers otherwise.

John Fare
Sepulveda, Calif.

My wife and I consider ourselves part of the middle class. We have decent jobs, own (with the bank) our home, and are well-educated. In 1984, we purchased a Pontiac and in 1986, a Chevrolet, taking out loans on both. The Pontiac loan has been paid, and the Chevrolet loan will be paid in March, 1990. We filed 1040 income-tax forms with itemized deductions and relied significantly on the interest deductions.

Just as many could not and would not buy a home without the mortgage-interest deduction, we will not buy another new car on credit because we have lost the deduction on our income tax and also lost state sales taxes as a deduction. Plain and simple, no other reason.

I think I speak for thousands of home-owning Americans when I say that I will not buy another new car until I can pay cash. I will never again finance a new-car purchase unless the deduction is restored. A simple matter of economics, not a complex problem regarding production, Japanese competition, workmanship, unions, finance, or world markets.

Mark Gissiner
Cincinnati

YOU CAN'T GET AIDS BY GIVING BLOOD

The article "A Shiny new weapon in the war on cancer: Light" (Science & Technology, May 29) said that "light-activated drugs could save millions of dollars... and eliminate the risk to donors." The fact is that there is no risk of AIDS to blood donors.

J. M. Korth-Bradley
Austin, Texas

AMERICA SHOULD USE ITS SCIENTISTS MORE SKILLFULLY

With reference to your article "Fewer guns could mean a whole lot more butter," (Economics, June 12), there is no evidence that "approximately 30% of all scientists and engineers are employed in defense-related research and production." According to the best recent research on the subject (National Research Council, *The Impact of Defense Spending on Nondefense Engineering Labor Markets*, 1986), at the

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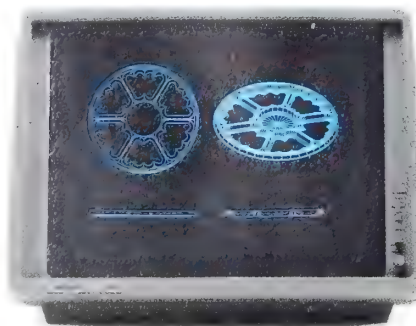
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Readers Report

peak of the Reagan defense buildup in 1984, 15.5% of all U.S. scientists and engineers with Bachelor's degrees were working on Defense Dept.-sponsored projects, down from 18.6% in 1972. Those with Master's degrees totalled 19%, down from 23.8%, and 8.5% with Doctorates were so employed, down from 10.5%. The problem is our failure to use existing nondefense-employed talent well, not the loss of scientists and engineers to defense work.

Gordon Adams
Director
Defense Budget Project
Washington

EMERSON'S CHAIRMAN AIRS HIS VIEWS

Your article "From boom boxes to bargain-basement PCs" (Top of the News, June 26), while accurate in general, did portray our company with several misconceptions.

Emerson Radio did not make "its fortune by slapping its name on low-priced, Asian-made boom boxes." The Emerson brand name has been associated with quality and affordability since 1912. Emerson has played a significant role in the development of phonographs, radios, TVs, VCRs, and microwaves. We were one of the last American manufacturers to go offshore.

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William W. Lane
Chairman of the Board
Emerson Radio Corp.
North Bergen, N.J.

REPUBLICANS HAVE NO MONOPOLY ON SMEAR CAMPAIGNS

Your editorial "Pull the plug on skinhead politics" (Editorials, June 26) can only be described as purely partisan whining.

You would have us believe that the use of ethics to bash politicians is Republican Original Sin. This is, of course, preposterous. The practice was perfected by congressional liberals during the 1980s as a means of neutralizing the Reagan landslides. Since I am unable to ask the Honorable Speaker Wright to explain what he meant by the phrase "mindless cannibalism," I'll ask you. In the spirit of bipartisanship, would you

name for us at least three Republican victims of this scourge? Do the names Ed Meese, Robert Bork, and Raymond Donovan ring a bell?

Daniel R. Veddern
Cincinnati

To imply that "skinhead" politics is what brought down Jim Wright and Tony Coelho is ridiculous! The charges against them can hardly be labeled "below-the-belt assaults." The fact is that these Democrats were hypocrites about ethics. Now that the finger is pointed at them, they cry "skinheads" and "homophobes!" The smear campaign against Thomas Foley can hardly be placed at the feet of the Republican National Committee, either. Anyone with an ear to Capitol Hill knows that the rumor-mongers were primarily the Dems jostling for new jobs.

Christopher Lowry
Minneapolis

THE NEW BETHLEHEM BENEFITS FROM A RIGGED MARKET

Your article "Forging the new Bethlehem" (The Corporation, June 5) left me gasping. How can you devote 2,000 words to a corporate turnaround, impressive as it is, without mentioning the favorable context: protectionism. Bethlehem Steel Corp.'s market is rigged by voluntary restraint arrangements that hamper its competitors and raise prices. Is that not relevant to its "record earnings" last year of \$403 million? Bethlehem's customers (i.e., American industry) are all being ripped off by American protectionism.

Bill Emmott
London

THE TRUTH ABOUT VOLUME SHOE

Regarding your article "U.S. importers aren't jumping ship—yet" (International Business, June 26), please be advised of the following facts, which were reported in error and which I would appreciate your correcting:

Volume Shoe Corp. will import approximately 35% of our shoes from China in 1989, not the 85% that your article reported.

At no time has Volume Shoe been involved in the manufacture of shoes either domestically or abroad. We are a purchaser of finished goods and have no investment in manufacturing operations.

At no time during or since the disturbance in Beijing has product flow been interrupted or canceled. Shoes are continuing to flow on a scheduled and consistent basis from Chinese factories.

Our company, in conjunction with factories and workers in China, is continuing to work at providing quality shoes at reasonable prices to our customers.

Dale W. Hilpert
Chairman
Volume Shoe Corp.
Topeka, Kan.

CHINA'S CRIMES CALL FOR WORLDWIDE SANCTIONS

The U.S. response to the China situation has been too slow in coming ("The great leap backward," Cover Story, June 19). Please don't use "we do not want to hurt the people" as an excuse to protect our business interests in China. The grain that we sell to China is 100% controlled by the Chinese government. It is this government that will decide who shall eat and who shall starve. The foreign capital we and other nations pour into China continues to fuel the Marcos style, large-scale corruption from which all the Chinese suffer. It would be shameful to ignore the government's serious crimes committed on such an extraordinary scale. Economic and political sanctions by all nations are the only way to have any real effect on the situation.

Yuan-Yuan Lee
Woodridge, Ill.

WHY GAS STATIONS SHOULDN'T CHARGE A PREMIUM FOR SERVICE

I believe they used to be called "service stations," but now most gas stations don't provide service unless the customer pays a premium ("It's not just a fill up anymore, it's an event," Marketing June 19).

This is ridiculous when you consider that stations can pick up extra sales on air and oil filters, oil, and window wash fluids if every car is checked under the hood and the attendant is, as he or she should be, a salesman for the company.

Although I have several gas credit cards, I usually avoid Amoco and Exxo because they penalize their best customers (credit card holders) by offering a discount for cash. Whereas the cash customer will usually spend about \$10, the cardholder will fill it up.

As a retired retailer, I predict that after the shakeout, the company that offers quality service will win out over those who offer a discount for cash.

Spencer Howe
Silver Spring, Md.

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APOLLO: THE RACE TO THE MOON

By Charles Murray & Catherine Bly Cox
Simon & Schuster • 506 pp • \$24.95

JOURNEY INTO SPACE: THE FIRST THIRTY YEARS OF SPACE EXPLORATION

By Bruce Murray
Norton • 381 pp • \$19.95

WHEN THE U.S. TOOK THE HIGH ROAD TO SPACE

In 1961, when President John F. Kennedy made putting a man on the moon by the end of the decade a national goal, I had been a space fanatic for most of my nine years. On the one hand, the Apollo Program was a dream come true. On the other, I took for granted that it had to happen: It was America's destiny.

Now, as the U.S. celebrates the 20th anniversary of the first moon landing, authors Charles Murray and Catherine Bly Cox capture the adventure in *Apollo: The Race to the Moon*. "Kennedy's Apollo," they write, "came out of a long and honored tradition of great American boasts—that we could whip the British, cross the Rockies, build taller buildings. . . . But there was always an added clause that gave them meaning: 'If you don't believe it, just watch us.'"

Whew. Looking back past Gramm-Rudman and gas lines, you could call such bravura foolish and wasteful. Kennedy's boast sounded almost desperate, after the Bay of Pigs fiasco and the Soviets' preemptive triumph in getting a man in orbit. But never mind. *Apollo* isn't a cost-benefit analysis. It's the story of a \$24 billion engineering gamble the likes of which we may never see again.

Murray and Cox have produced a work of solid journalism, focusing on the engineers, administrators, and mission controllers who were invisible to the public but who made the project go. Today the notion of a bold administrator seems oxymoronic. But what else can you call George E. Mueller, NASA's manned space-flight chief, who took over a foundering Apollo project in 1963? Mueller singlehandedly overruled three decades of German engineering doctrine, successfully crossing swords with the legendary Wernher von Braun.

Von Braun, whose crew built the Saturn V that propelled the men to the moon, believed in testing each of its three rocket stages one at a time. Mueller drastically compressed this schedule, so the stages all made their maiden voyages together, stacked in one rocket. Later, von Braun would admit that the 1969 manned lunar landing wouldn't have been possible without Mueller's heresy of "all up" testing.

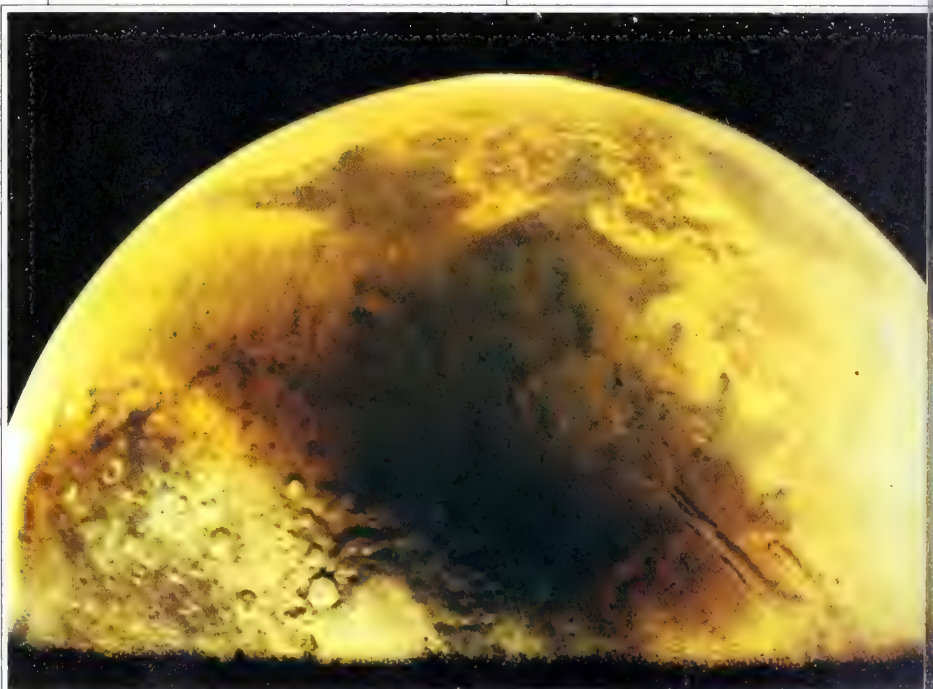
Apollo is must reading for those who always wondered just what happens in front

of the TV screens at Mission Control. During Apollo 11, for example, the first lunar landing, an errant computer alarm nearly caused Neil Armstrong to abort the flight and come home, minutes before touching down on the moon. With 19 seconds to decide and history on the line, Steve Bales, the 26-year-old guidance specialist at Mission Control, correctly judged that Armstrong could ignore the alarm.

Ironically, the project's greatest moment

In that context, "the least we can get away with" was heroic. Unfortunately, the phrase later became an all-too-literal description of the entire American space program. In *Journey into Space*, Bruce Murray, a former head of Pasadena's Jet Propulsion Laboratory (JPL) and no relative to Charles, recounts how the U.S. evicted its thriving, unmanned planetary exploration program. In the wake of Apollo, NASA stupidly decided that all unmanned probes would have to be lofted by the manned space shuttle. As the shuttle's development staggered through the 1970s, plagued by cost overruns and new design, cost-efficient unmanned missions were canceled or stripped to the bone.

Bruce Murray takes us inside the JPL where we relive the journeys to the planets that began in the 1960s. His story is most straightforward, though readers may be



WHEN VIKING LANDED ON MARS IN 1976, EXCITEMENT NEARLY MATCHED THE MOONWALK'S

was its biggest near-disaster. When Apollo 13 was halfway to the moon, a balky fan caused a chain reaction and explosion, knocking out oxygen and power. Murray and Cox flesh out the crew-cut-and-slide-rule types who saved the mission with qualities usually ascribed to athletes and astronauts. Nursing that craft around the moon and back to earth took almost inconceivable conditioning, inspiration, and guts.

The tone was set by Don Arabian, head of the engineers in the "back room," as Apollo 13 hurtled back to earth critically low on electricity, water, and oxygen. He told his troops: "Go back to the physics of the design that no one knows better than you, the knowledge that's not written down anywhere, and decide what's the least we can get away with."

down in the details of space photography. But he conveys the thrill when pictures of Mercury, Mars, Jupiter, Saturn, and the moons first filled our TV screens. And when Viking clawed Martian soil in 1976, the excitement almost matched the moon walk's, even though no life was found.

On May 5 of this year, when the shuttle lofted Magellan toward Venus, the U.S. finally ended an 11-year hiatus in which no probes were launched. During that stretch, Galileo, our next emissary to Jupiter, underwent countless delays and reconfigurations; it is set for launch this fall. So far, says Murray, Galileo "could serve as a billion-dollar monument to a time in America when political mediocrity triumphed over technical competence and dedication."

The sad fact, Murray concludes, is that

otic ventures rode the coattails of public enthusiasm for Apollo. His message, though, ultimately isn't a eulogy, but a caution call: "We can once again illuminate the heavens with our accomplishments, if we have the will." It's hard not to agree. Somewhere between the go-for-broke drag race of Apollo and the impoverishment of the last decade in space, we and other space-faring nations should be able to hit a stride that can furnish more "giant leaps."

BY DAVID ZIGAS

Associate Corporate Finance Editor Zigas wants to be the first journalist in space.

BOOK BRIEFS

THE JACKSON PHENOMENON

Elizabeth O. Colton
Hardcover • 290 pp • \$19.95

Although he finished a poor second in the 1988 Democratic Presidential primary race, Jesse Jackson remains a subject of fascination to U.S. voters. But all the attention has been directed toward Jackson the symbol. Jackson the first Black Presidential Candidate. Jackson the Liberal. Jackson the Racist. None of these images defines Jackson the man. Elizabeth O. Colton, who was for a time Jackson's traveling press secretary, takes a crack at demystifying the preacher-turned-politician in *The Jackson Phenomenon*. Her portrait is not flattering. She describes him as egotistical, arrogant, calculating, and anti-Semitic.

Her view was born in part from her personal frustration with the campaign. From January to March, 1988, she traveled with Jackson, handling day-to-day press relations, but without any real influence on strategy. She seems shocked that Jackson would chew her out over a bad interview or bungled photo opportunity. Colton doesn't understand that being kicked by the candidate was part of her job. If the truth be told, Colton wasn't very good at it, at least in the opinion of a reporter who hopped on and off the campaign plane during her tenure. In fairness, the pressure on her was incredible. Jackson made up his schedule as he went along, sometimes scrapping events only hours before they were scheduled to occur. It didn't take long for Colton to cash in.

Rumors still circulate that Jackson may run for mayor in Washington this fall. Even if he doesn't, he is unlikely to fade from public scrutiny. But this book won't help voters judge Jackson dispassionately. He is an insensitive egotist, as Colton argues? No doubt. Most Presidential candidates are. Did he grind down staffers, only to toss them away when they were no longer useful? Sure. Politics ain't beanbag. Is Jackson an anti-Semite? Maybe yes, maybe no. But there, Colton has failed to check up a serious charge.

BY HOWARD GLECKMAN

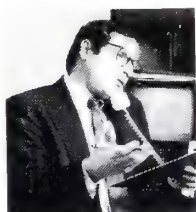
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A BEACHHEAD FOR THE BELEAGUERED LABOR MOVEMENT

BY ROBERT KUTTNER



At Harvard, a union wins an all-too-rare victory in organizing service workers.

Duplicating this success will be tough—there aren't too many Harvards around. But it shows what enlightened labor relations can accomplish

Last week, the Harvard Union of Clerical & Technical Workers (HUCTW) ratified its first contract, capping a 15-year struggle to organize white-collar employees at Harvard University. The agreement is a model contract and a model labor saga as well. It speaks volumes about the shape of the emerging labor force and the emerging labor movement, such as it is.

In the early 1970s, female lab technicians and secretaries at the Harvard Medical School and Public Health School first attempted to unionize. Harvard played hardball and won from the National Labor Relations Board a ruling that required the union to organize all of Harvard if it was to organize any of it.

The union leader is a deceptively demure former technician named Kristine Rondeau, 37, widely considered one of America's most astute organizers. Her entire organizing experience has been at Harvard. Rondeau epitomizes the new work force, which unions are belatedly addressing: female, engaged predominantly in service work, and seeking respect and influence as well as higher wages. Fittingly, Harvard's chief negotiator, who brought this campaign to a constructive conclusion, was John Dunlop, professor emeritus, close friend of Harvard President Derek Bok, and dean of a generation of essentially conservative labor scholars and mediators who nonetheless view a labor movement as a useful thing for a society to have.

GROWING PAINS. Fittingly, too, Rondeau and the HUCTW had difficulty meshing with the established labor movement. The HUCTW at one point was adopted by the United Auto Workers, but the clash of cultures was simply too great. Many UAW officials were uneasy about conceding real authority to upstarts such as the women of HUCTW. Disagreements over both tactics and power led to a messy divorce. When the UAW pulled out, the American Federation of State, County & Municipal Employees, the largest service-sector union, was happy to step in. The Harvard union became a special unit of the AFSCME, reporting to union President Gerald W. McEntee and receiving a yearly subsidy of \$500,000.

However, Rondeau and her home-grown organizers continued to run the show. After a decade of organizing Harvard's fairly high-turnover clerical work force of nearly 4,000, they finally had enough signed cards to petition the NLRB for a representation election. On May 17, 1988, the union won a squeaker—1,530 to 1,486. Harvard, assisted by the Boston power law firm Ropes & Gray, continued to play hardball, asking that the election be overturned on the

ground that the union had used strong-arm tactics.

But in October, an NLRB judge held that Harvard's complaints were frivolous. Harvard's personnel staff and lawyers were preparing the next round of appeals when Bok, apparently with strong urging from Dunlop, abruptly decided to recognize the union. Shortly afterward, he appointed the 75-year-old Dunlop as his chief negotiator. Another Harvard eminence, James J. Healy, business school professor emeritus, was appointed mediator.

Bok was always in an unseemly role as a union buster. Prior to becoming Harvard president, he was a professor of labor law. Bok's scholarly work, like Dunlop's, presumed the existence of unions. In *Labor and the American Community*, a book they co-authored, Bok defended unions as constructive institutions giving workers a voice and stabilizing labor relations.

NEW AGENDA. The new Harvard contract reflects the agenda of the new labor movement. It provides raises estimated to average 32% over three years, with the biggest increases for low-paid and long-tenure workers. It also establishes joint labor-management problem-solving councils throughout the university, more flexible work hours, and improved health and pension benefits. And it expands educational benefits, committing Harvard to a model day-care center jointly by union and management, and, my own favorite—allows the clerical workers to use Harvard's athletic facilities. Charmingly, too, the ratification vote was held in the Ropes-Gray room at the Harvard Law School. Neither labor nor management will place a price tag on the contract. But it isn't cheap, and many around Harvard Square are groaning that it is too expensive, too liberal, and too embracing of union philosophy.

A Harvard clerical worker is a textbook example of a low-prestige employee who exists mainly to serve high-prestige ones. One can find millions of such workers throughout the service economy, and precious few are unionized. The labor movement generally was more alert and alive, and there were more John Dunlops and fewer Frank Lorenzos representing management, before we would see more such contracts in America's service economy. But Harvard is exceptional in several respects. It is, after all, Harvard. It cares about its image and it can't relocate to Taiwan. And despite its corporate aspect, it keeps incubating social-contract Tories such as James Healy and John Dunlop. The rest of the service economy will be far tougher to organize. But Harvard gives the labor movement an elegant toehold.

ROBERT KUTTNER IS ECONOMICS CORRESPONDENT FOR THE NEW REPUBLIC AND AUTHOR OF THE LIFE OF THE PARTY

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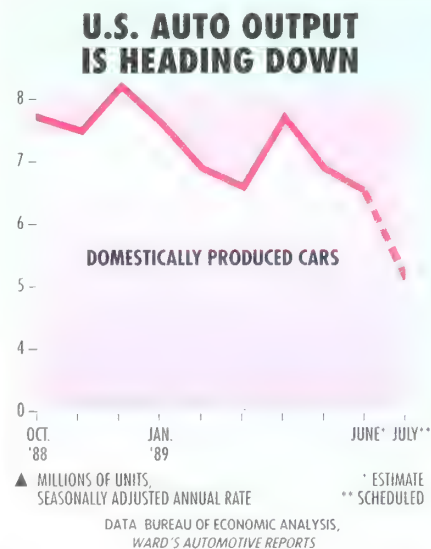
Buckle up—together we can save lives.

BY GENE KORETZ

HOW A HARD LANDING IN DETROIT WILL DENT THE ECONOMY

Although U.S. carmakers saw the warning signs of slowing sales, they have been slow to put the brakes on production. Now, however, they're starting to get the message. Seasonal adjustment of output projections in *Wards' Automotive Reports* indicates that the industry is now planning to turn out cars at a 5 million-unit annual rate in July—down from 6.5 million in June (chart) and the lowest monthly pace since late 1982.

That may be only the beginning. Domestic output has been exceeding sales through most of the first half, leaving



car inventories toward the end of June about 15% higher than their average level in the past five years. Despite a passel of incentives including price rebates, cut-rate financing, and even zero-rate two-year loans by Chrysler Corp., the sluggish pace of car sales continues. Thus, observers expect Detroit to announce further production cutbacks and even greater incentives to clear 1989 models out of showrooms in the third quarter.

Economist Edward E. Yardeni of Prudential-Bache Securities Inc. thinks that sharp drops in truck and auto assemblies in the third quarter could slice as much as a percentage point off the economy's growth rate. "Detroit's hard landing is starting to have an economywide impact," he says, noting that automotive products account for about 16% of all durable goods shipments and that the industry's problems are being reflected

in both the softening of orders for primary metals and the steep recent decline in machine-tool orders.

Why the disappointing pace of car sales? Automotive economist Bernard Campbell of DRI/McGraw-Hill blames the sluggish economy, a continuing decline in used-car prices (BW—July 3), and the excessive incentives used to accelerate car sales in recent years—particularly five-year loans. "After three years, many people find they owe the bank more than the dealer will give them in trade-in value," he explains, "so they either hold on to their cars or buy a used model of more recent vintage." At the same time, high loan delinquency rates have led lenders to tighten credit standards for car-loan applicants.

Yardeni of Pru-Bache thinks long-run factors are affecting demand as well. With a record 53.8 million cars sold in the five years from 1984 through 1988, he says, pent-up demand appears to have been satiated. More important, he theorizes that the aging of baby boomers is transforming that group from big spenders into big savers as they settle down and raise their own kids. Although he thinks the economy will avoid an outright downturn, he notes that real outlays for clothing, restaurant meals, new cars, and other yuppie items have stopped growing this year—pointing to a "rising risk of a couch-potato recession."

With James B. Treece in Detroit

THIS RECESSION MONITOR IS FLASHING YELLOW

May's 1.2% drop in the leading indicators followed a 0.6% rise in April, so the index still hasn't given the traditional recession warning of three consecutive declines. But according to economist Carl J. Palash of McCarthy, Crisanti & Maffei Inc., the index is definitely flashing yellow.

Back in 1985, Palash and Lawrence J. Radecki of the Federal Reserve Bank of New York employed a statistical technique known as sequential analysis to evaluate the performance of the leading index. In essence, the approach uses the index' behavior in past downturns to determine the chance that its most recent monthly movements could have taken place in a recession. A recessionary signal occurs if the probability estimate rises above 90%—and that's exactly what happened in May, when the index yielded a reading of 95%.

That doesn't mean a recession is inevitable, however. When Palash and Radecki first developed their recession

monitor in 1985, they noted that it would have predicted seven of the eight recessions since 1950 and would have given only one false alarm in that period. Since then, Palash has kept the monitor up to date, and he points out that it gave another false alarm in December, 1987, after the stock market crash. "We avoided a recession then because the Fed decided to ease monetary conditions," says Palash. "I think the same thing can happen again."

COOLER GASOLINE PRICES ARE CHILLING INFLATION

Get set for some good news on inflation. Economist Donald Ratajczak of Georgia State University predicts that the producer price index for finished goods will be up only 0.2% in June—it's the smallest rise in nine months. The big dampening factor: falling gasoline prices, which tended to offset sharply higher fruit and vegetable prices during the month.

Looking ahead, Ratajczak thinks that the PPI could remain relatively subdued through the rest of the year. Producer prices accelerated in the first half because of the effect of OPEC's production controls on oil prices and the drought impact on food prices. But normal weather in the Corn Belt this year suggests that basic food prices will be relatively well-behaved in coming months. And while oil prices are not weakening, they are also no longer rising. If these trends continue, Ratajczak believes the PPI, which has been rising at an 8.5% annual rate so far in 1989, will be up only 5.3% for the year.

AMERICA'S STANDARD OF LIVING: NO. 2 —AND LOSING GROUND

According to the Washington-based Council on Competitiveness, the U.S. standard of living—defined as per capita gross national product—grew more slowly last year than both West Germany's and Japan's, continuing a pattern that began in the early 1970s. In absolute terms, U.S. per capita GNP is now below that of Germany (\$13,840 in 1988 vs. Germany's \$15,250) and is less than 10% higher than the average of the seven largest industrial trading partners. What's more, warns the council, the need to repay America's huge foreign debt threatens the future growth of U.S. living standards.



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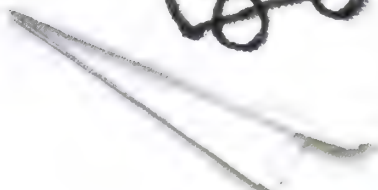
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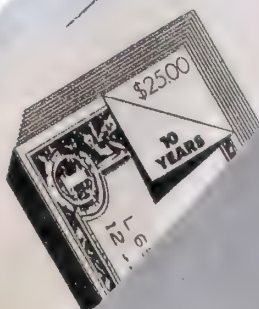
Anyone can have a great idea. Make sure everyone else thinks it's a great idea.



The difference between an idea and an idea that sells can be a Macintosh IIcx computer, an Apple Scanner and a LaserWriter printer.

RETURN ON INVESTMENT

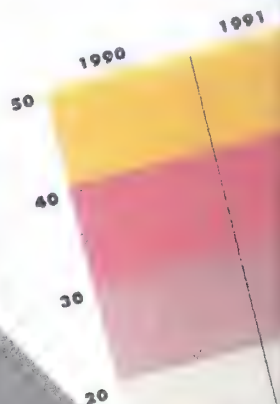
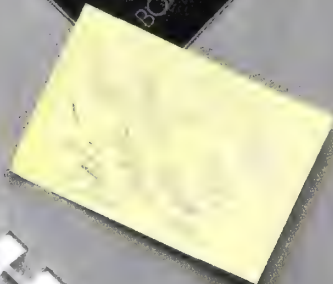
Break even on the Helocar in the first six months. More amazing growth anticipated in the first year. original investment will reach 80% in the first year. This phenomenal growth will be primarily due to the UK and NY regions, where demand for a higher quality of life will be the greatest. By year 10, everyone in the room will have a Helocar.



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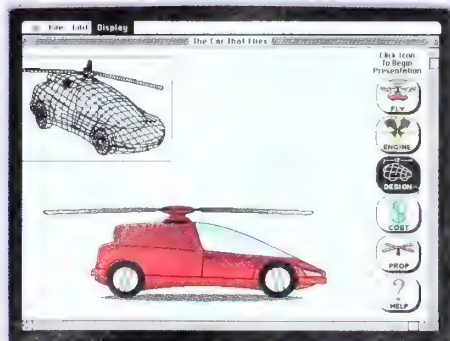
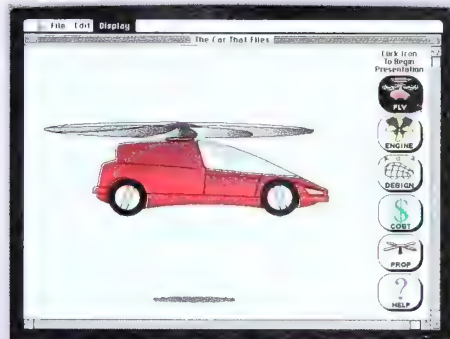
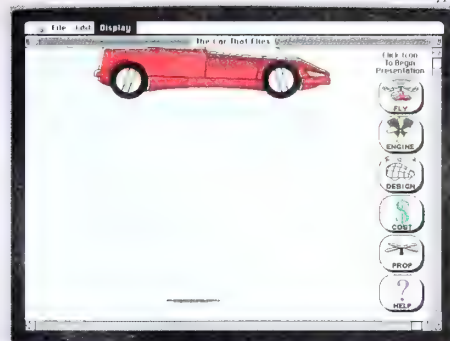
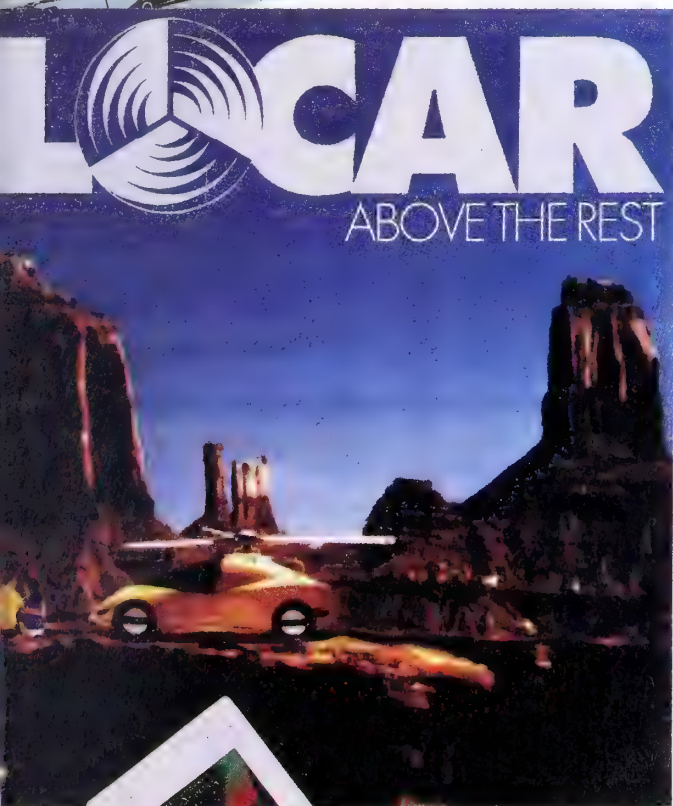
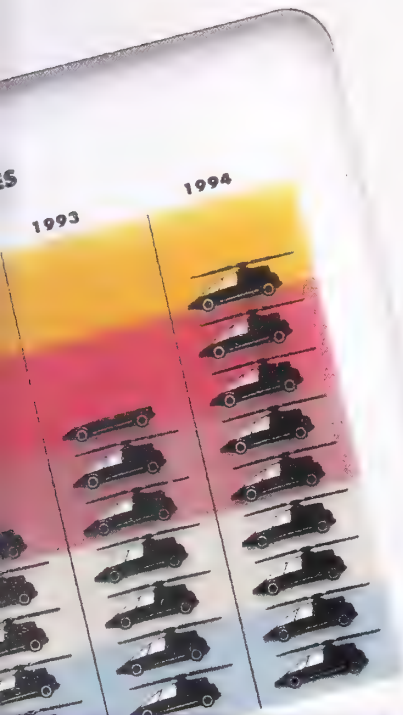
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Prepared by Ben

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The World's Most Important Economic Partnership:

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The United States and Japan today live with a simple reality: they must stand together or they will fall together. The two economies have grown that interdependent.

Trade, which more than doubled in the 1980s is the big reason. Each is the other's must market. U.S. industry to a great extent also relies on Japan for imports of advanced components essential to production.

Business cooperation is common. Last year there were 2000 transactions linking U.S. and Japanese companies, including joint ventures and licensing agreements. The U.S. is Japan's largest foreign investor. U.S. subsidiaries there have annual sales of over \$45 billion and an average ROI higher than any other region. Japan is the third largest direct investor in the U.S., accounting for some 22% of U.S. exports.

Japanese investors annually fund a third or more of the U.S. government's debt and buy a large proportion of U.S. private paper. Any cutback would send U.S. interest rates soaring. Equally true, any sharp decline in the U.S. economy would seriously weaken the Japanese financial system.

Together the two economies represent some two fifths of gross world product, a quarter of world trade and a third of the patents issued. "Nowhere in the world is there a more important bilateral relationship," observed Shoichi Akazawa, chairman of the Japan External Trade Organization (JETRO) at a conference in New York last March organized by JETRO and *Business Week*.

"If the U.S. and Japan work together," remarks Toshiba Senior Executive Vice President Kinichi Kadono, "you have the combined strength of an economy of more than \$6 trillion. If they pull in different directions, the result is considerably less."

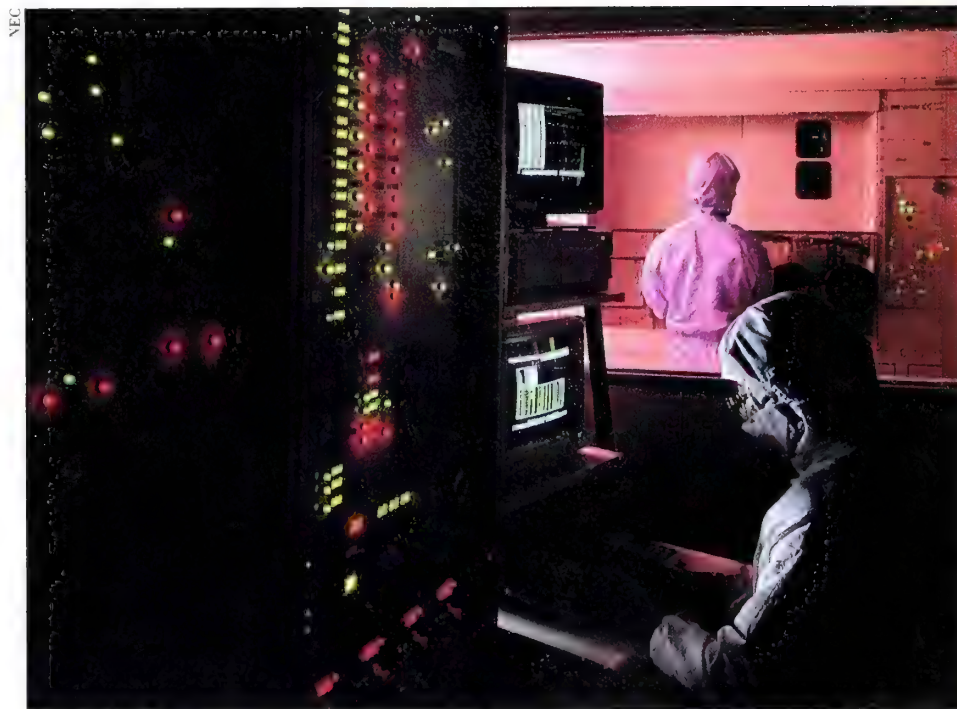
Is The Partnership In Danger?

This year—as friction over trade and technology has seriously worsened—concern has begun to mount about the health of the relationship. At the JETRO-*Business Week* conference Sony President Akio Morita warned "The world economy is increasingly resting on a very unsound, unhealthy foundation."

Taizo Nakamura, a former managing director at Mitsui Bank with long expe-

rience in the U.S., takes a historical view, noting that there were sharp trade confrontations between the U.S. and Japan over cotton in the 1950s, textiles in the '60s, color televisions and steel in the '70s and cars in the early '80s.

In each instance, Japan had to appease a U.S. industry then in decline. The difference now, Nakamura notes, is that the points of contention are industries of the future.



Fear For The Future?

There is a new sharpness to U.S.-Japan trade relations. Much of this animosity stems from concerns in the U.S. about the future. It is as if the country suddenly is filled with self-doubt. One reason is a sense that some of the economic gains claimed during the Reagan years were illusory.

Then there is technology: the FSX Japanese fighter debate showed how deep the fears of Japanese technological prowess run. This confuses many Japanese, since the trade in technology between the U.S. and Japan still runs two to one in favor of the U.S.

While the U.S. does have serious budgetary problems—its proportion of government debt to GNP is almost as high as Japan's—the country is not in decline. Sales of products made by U.S. companies abroad now approach \$1 trillion.

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Information and communication systems for the car will make future driving safer, easier and more convenient.

Put eyes in the back of your head. A navigation system in front of your nose. A telephone and fax in the middle of everything.

A map pinpointing traffic jams flashes across your car's video monitor. Another monitor shows you right, left and rear views. All this as well as a voice command phone and mobile fax are but a few of the advanced electronic systems that Matsushita Electric is working on today, to make driving safer, easier and more convenient tomorrow.

You're late for work, heading toward a traffic jam and there's nothing you can do about it. In the future, this may not be a problem because of the advanced automotive electronic systems under development at Matsushita.

VISUAL INFORMATION SYSTEM

Should you take the highway or the boulevard? Or maybe the back roads? Someday, your car's navigation system will take care of all that. A navigation map will show you traffic jams on a sophisticated video screen and show you exactly where you are. So you can choose the fastest, most efficient alternate route.

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To make your time on the road more productive, Matsushita is developing a mobile fax that will connect your car to your office, home and beyond. A voice command mobile phone lets you call anyone by simply saying his name out loud. In any pre-programmed language. And linked with Matsushita's home automation technology, the sound of your voice will lock or unlock the front door of your home, turn on the microwave oven or turn on your air conditioner. All from your car.

HUMAN ELECTRONICS

Advanced electronic systems like these are an example of how Matsushita Electric is devoted to the concept of Human Electronics. Matsushita's objective is to research, develop and market products that make life richer, safer and more comfortable. These products are sold under the brand names Panasonic, Technics, Quasar and National. In 1988, Matsushita's consolidated sales volume surpassed \$41.7 billion. All a direct result of a single-minded philosophy: Don't create new technology for technology's sake, but for man's sake.

MATSUSHITA ELECTRIC

PANASONIC TECHNICS QUASAR NATIONAL



As Harvard's Samuel P. Huntington pointed out in a recent *Foreign Affairs*, the U.S. share of gross world product, trade and high-tech exports, has been more or less constant since the late 1960s. The great danger is of making fear reality, what author Joel Kotkin calls "psychological deindustrialization."

Yes, A More Open Market

The main touchstone for U.S. fears is the trade deficit. Although this improved by 7% to \$55 billion last year, it remains a visible symbol of a long-held belief that Japan trades unfairly and that Japanese markets are closed.

This has never been exactly true, as indicated by the performance of U.S. companies in the Japanese market: Schick has 70% of the razor blade market; McDonald's 30% of fast food; Coca-Cola 30% of soft drinks; NCR 26% of the point-of-sale equipment; Sun Microsystems 30% of the workstations.



**TOSHIBA AMERICA HAS
ANNUAL SALES OF \$3 BILLION.**

Japan has made a strong effort to open its market and is changing its economy. "Export or die" is no longer the theme of government or corporate policy. Increasingly domestic demand is driving the economy. The annual gains now approximate in size the entire Swedish or Swiss economy.

**MATSUSHITA HAS
REGIONAL HEADQUARTERS
ON THREE CONTINENTS.**

The Japanese government itself has tried to encourage imports. At the JETRO-Business Week conference, former Vice Minister of International Trade and Industry Shinji Fukukawa joked that his ministry should get an award from the U.S. government for promoting U.S. exports.

Helped by the high yen, import growth has been strong. Last year U.S. imports jumped 33.4% and Japanese purchases of U.S. manufactured goods rose by 30.9%. Overall, the proportion of manufactured goods to what Japan buys abroad—long an issue of contention—has increased from 24% in the early '80s to almost 50% in 1988.

Yet, Japan is still a difficult and expensive market to enter, with strong cultural biases, idiosyncratic conditions, fierce competition and entrenched special interests. Many Japanese executives feel the time has come to open the market completely.

"Eventually all barriers should be eliminated," reasons Toshiba's Kadono. "It won't end trade friction, because that is also a function of the free market, but it will make the situation clearer."

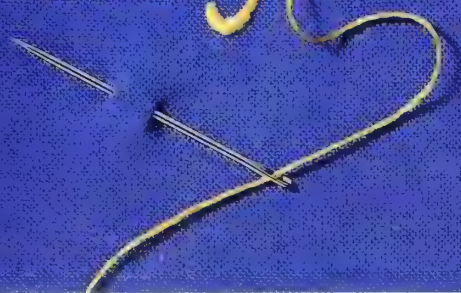
But Strains Continue

Despite this progress, friction grows more intense because to foreign eyes the market is still not a level playing field. New issues arise or old ones recycle to revive past bitterness.

Mobile telephones are a good example. In response to U.S. pressure, Motorola gained access to the market, winning a 20% share. But it is blocked from expanding while competitors are not. Many Japanese would agree that much of the fault lies with the government department responsible.



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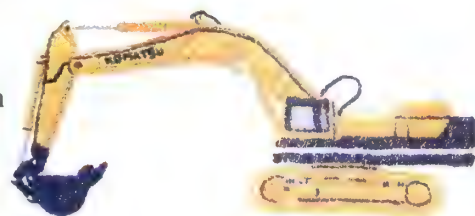


Our motto is more than pretty words. It's the fabric of our business.

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Unfortunately, what is lost in this confrontation is that six Japanese companies active in the U.S. market now make mobile phones in the U.S.—Fujitsu, Matsushita, Mitsubishi Electric, NEC, Oki Electric and Toshiba.

Confrontation over semiconductors is even more complex, since the U.S. is trying to hold Japan to its interpretation of a side letter accompanying the 1986 agreement on semiconductors and thus gain a guaranteed 20% market share by 1991.

Despite higher wages than California or Texas, the Japanese semiconductor industry remains competitive. One reason is that the Japanese industry has the cleanest production facilities in the world. Another is that many large producers are also large chip consumers. A third is that roughly half the Japanese market is for consumer electronics, an area where U.S. manufacturers are historically weak.

Even so, U.S. chipmakers have made a commitment to the market increasing their share, which climbed to 10.5% last year. NEC already sources about 20% of its largescale integrated circuits from U.S. manufacturers. Fujitsu is increasing its purchases, and Matsushita is working with U.S. suppliers to develop their products and plans to increase its purchases to 12.5%. Also, Hitachi offers incentives to its factories to use U.S. chips.

"The Electronics Association of Japan," notes Association Chairman Katsushige Mita, who is also President of Hitachi, "formed a group to help U.S. companies adapt products for the Japanese market and staged a seminar in San Jose."

WITH SEVERAL PLANTS IN THE U.S. FUJITSU HAS AN ACTIVE MARKET PRESENCE.

The demand for a guaranteed quota, however, causes alarms to ring in Japan. "We now face the danger of a confrontation between managed trade, as advocated by the U.S., and free trade," warns Fujitsu President Takuma Yamamoto.

"We must have suitable products, or we fail," says NEC President Dr. Tadahiro Sekimoto. "We buy products as long as they are reasonably priced, of assured quality and can be used. This is common sense and no one can force us to do otherwise."

Beyond The Labyrinth

Among the latest issues dividing the U.S. and Japan is Japan's archaic, many-layered distribution system. It is so inefficient it adds 50% to the cost of products—foreign firms claim the figure is higher and prevents them from competing fairly in the market.

The system is based on small shops. Some 57% of retail sales in Japan is through small shops, compared to 3% in the U.S. Many of these stores are linked to a single manufacturer. Matsushita acknowledges that part of its strength comes from a network of 25,000 outlets.

Closely tied to community and culture, providing an outlet for excess labor as well, the small stores are protected by laws restricting the opening of large stores.

Changing the system will require enormous political will. Yet it is something many Japanese business leaders agree must be done sooner or later. As MITI's Fukukawa remarked at the JETRO-Business Week conference, "The expansion of domestic demand must be paralleled by deregulation."

The Investment Quandary

Oddly enough, another problem area in the U.S.-Japan relationship is direct investment. Currently Japanese business has sunk more than \$70 billion in the U.S. and approximately three million Americans now work for Japanese-owned companies.

Although some forty U.S. states have offices in Tokyo which court Japanese direct corporate investment, there is increasing concern about Japanese in many parts of the U.S.



"The new 'Best in Class,' with the emphasis on class."

Car and Driver, May 1989



mazda

Car and Driver Magazine puts Mazda MPV at the top of the category for 1989.

The verdict was overwhelming. *Car and Driver* editors rated Mazda MPV and its competitors in ten separate categories—and MPV claimed victory by winning nearly every one.

Pitted against competitors including Dodge Caravan and Ford Aerostar, Mazda MPV was rated number one in eight out of ten categories including handling, ride, styling, comfort and value.

In selecting MPV, *Car and Driver* stated: "Winner, winner, winner...phenomenally good road dynamics...a most carlike feel...great layout

...delivers more fun per mile than we thought possible from a utility-minded vehicle."

And now MPV will offer a whole new choice in four-wheel-drive versatility with the introduction of MPV 4WD. It's designed to combine all-weather four-wheel-drive capabilities with the exceptional performance, room, and comfort that has put MPV in a class by itself.

Mazda MPV. The reviews are in and the consensus is clear: it is the "'Best in Class' with the emphasis on class."

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Some ascribe this to racism, others to nationalism. Essentially it is a response to change and the questions raised are often questions that need to be asked.

Unfortunately, the Japanese are more likely to become targets because they are usually more noticeable than the British or Dutch which have larger cumulative stakes in the U.S. In addition, Japanese investors have taken a higher profile in the M & A market. Where there were no billion dollar deals in 1987, in 1988 there were five.

Yet, much of Japanese investment is "greenfield"—opening new plants—and where acquisitions are made, often additional capital is ploughed into the investment. As one American in a buy-out situation put it, "The Japanese had faith in the technology we created, our own management did not."

Need to Solve Real Issues

One of the problems with the tension that now exists in the U.S.-Japan relationship is that it draws attention to the symptoms, rather than fundamental

causes. "You cannot solve trade friction with administrative guidance in Japan or selling targets set by the United States," argues Mitsui Bank's Nakamura. "What is needed is a radical resolution of the macroeconomic imbalance."

It is no longer desirable," Nakamura continues, "for Japan and other Asian countries to depend on a trade surplus with the U.S. for growth. They need to give more thought to expanding intra-regional trade. Jimmy Carter's argument that there should be three engines of world growth—the U.S., Japan and West Germany—is still valid."

Equally important, the U.S. must address its budget deficit, which is a contributing factor to the trade shortfall. This will require painful choices, not least because the U.S. also needs to restructure its economy and revive the manufacturing sector, which is now import-dependent. The great error of the '70s and '80s, perhaps, was the failure to recognize that economic strength is essential to political and military power.

At the JETRO-Business Week conference, Sony's Morita reasoned that the decline of the U.S. manufacturing

Case Study in Diversification: The New Face Of Sumitomo Metals

Sumitomo Metal Industries—Sumitomo Metals—is one of Japan's top steelmakers in terms of production, technology and management. It is also a classic example of how corporate diversification works in Japan.

In FY 1988-89 non-steel products accounted for a mere 10% of the company's sales. By FY 1995-96, the proportion should be 40% or even 50%.

As company President Yasuo Shingu explains, Sumitomo Metals is being completely overhauled. "We have already changed the corporate culture," he says, "and we have begun planting seeds in new fields."

Sumitomo Metals is aggressively investing in electronics and new materials, such as fine ceramics. It has moved into biotechnology and has organized a joint venture. It is developing coal chemistry, focusing especially on coke by-products. "Today we are surrounded by oil-based products," Shingu notes, "but there are many products that can be made only from coal."

Personnel in Shingu's view is one of the key problems. Existing staff have



SUMITOMO METALS IS INVESTING IN ELECTRONICS AND NEW MATERIALS.

to be recycled and new people recruited. Last year the company took the innovative step for a large Japanese company of hiring as many people at mid-career level as straight out of university—chemical, electronics and systems engineers as well as the usual metallurgists.

In fact, it is because of the difficulty of getting as many good people as

he would like, that Shingu is especially intent on establishing joint ventures with U.S. companies. "In many fields," he says, "we would like to introduce American technology to Japan."

Sumitomo Metals has joined application specific integrated circuits maker Standard Microsystems to create Toyo Microsystems. It has an agreement with Lam Research to produce advanced equipment for semiconductor manufacturing. "We have a strong desire to form joint ventures in Japan or even in the U.S. if we can get good partners in areas other than steel," Shingu emphasizes.

That is not to say Sumitomo Metals is abandoning steel. It remains a technology leader and is passing much of its technology to the U.S. through a close working relationship with LTV.

In addition, Sumitomo Metals and LTV already have a joint venture in operation producing electrogalvanized steel sheets for the automobile industry in the U.S. Recently the two companies signed an agreement to set up a second joint venture in the same line, virtually doubling their capacity.



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sector was a major cause of trade problems. He warned: "When the manufacturing engine of an economy stalls, demand for all types of services is reduced. American industry must become more competitive."

An Alternative To Negotiation

Apart from macroeconomic problems, the U.S. and Japan need to find better ways to solve their disagreements.

"Relations might be better," suggests Ricoh President Hiroshi Hamada philosophically, "if discussions took place, rather than negotiations, which imply different benefits for each side." Adds Goro Yamazaki, Executive Manager and Director of the Hotel Okura, "We need to ask each other's opinions."

"It is essential to deepen mutual understanding," says Hitachi's Mita. Part of the problem, he believes, is cultural.

Mitsubishi Kasei President Seiji Suzuki notes that politics seems to lead arguments astray. "My concern," he says, "is that when we talk business, everything goes well. But when political factors come into play, the officials put domestic considerations first."

Many believe that Japan has not done as well as it could articulating its point of view. "There has been a lack of good communications in English with a Japanese accent in the U.S.," says Yamazaki.

While Japan lobbies Washington with a zeal that may one day backfire, it is not making its case at the grassroots level. Few Americans know that Japan spends more on defense than any of the NATO allies or pays 40% of the cost of the U.S. military presence in Japan. Observes Alan Smith, President of Smith McCabe Ltd., a New York firm specializing in Asian corporate relations, "The more time the Japanese spend in Washington and the less time they spend trying to understand and communicate with the American people, the worse things will become."

For Americans the most pressing problem still is understanding the Japanese market. Isao Nakauchi, chairman of The Daiei, a major retailer, told the JETRO-Business Week conference: "One of our Daiei buyers told me that Americans are becoming more interested in exporting. However, American products must fit Japanese lifestyles, or they will not sell."



THE MAZDA MIATA.

Kikkoman Executive Managing Director Yuzaburo Mogi agrees, "Both sides will have to make an effort. Americans have difficulty understanding Japan, just as Japanese have difficulty understanding the U.S., which is so open. Japanese society is not so transparent."

Yet there are similarities. "The U.S. and Japan share the same sense of value about democracy and liberty," notes Genichi Nagaoka, Senior Managing Director at Mazda Motor Corporation.

**RICOH IS A PIONEER OF
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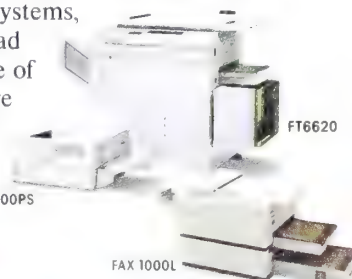
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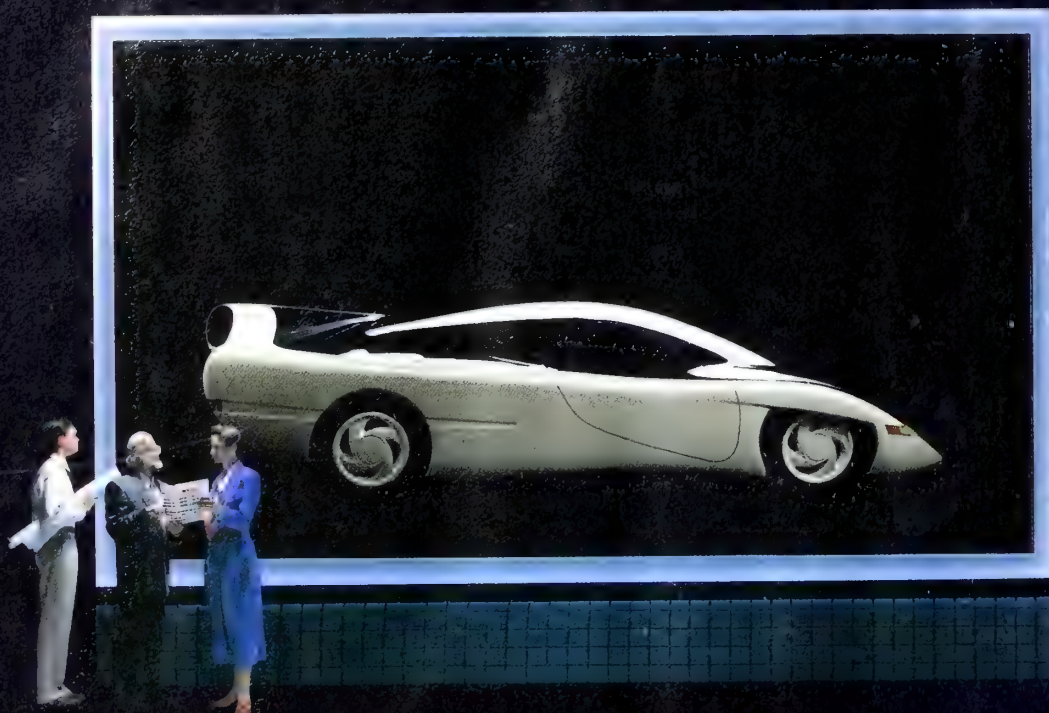
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And Hitachi is at the forefront of this communication revolution. Building displays of every size. Every shape. Meeting every need.

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Our 115,200-pixel, 5" liquid crystal color TV is a clear standout, too.



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We're a US\$48 billion international corporation. Our 20,000 products include telecommunications equipment. Construction machinery. Rail transportation. Everything from vacuum cleaners to power plants.

Including consumer electronics. Such as you see in our 115,200-pixel, 5" liquid crystal television. It's super clear. And it, too, is backed with the technological excellence found in

every Hitachi product. No matter how big. Or small. And that's the bottom line.

*US\$48,496 million; net sales for the year ending March 31, 1989. US\$1=¥132



Hitachi, Ltd. Tokyo, Japan



CORPORATE STRATEGIES IN A CHANGING JAPAN:

Responsibility,
Globalization,
Cooperation & Diversification

NIKKEI PUBLISHES
JAPAN'S LEADING BUSINESS
MAGAZINES.

Nikkei Business, like its parent, Japan's premier financial daily, the *Nihon Keizai Shimbun*, both reflects and shapes Japanese business life in a way no western business publication does. It is partly a function of audience, partly editorial quality, partly prestige.

Quite often, *Nikkei Business* introduces new words or concepts. Last year the magazine focused on what it now means to be a "good company." "This is no longer just the pursuit of market share," summarizes Akira Nagata, who is Senior Executive Director and Group Publisher of Nikkei Business Publications as well as the publisher of *Nikkei Business*. "As the Japanese economy grows larger and its world impact greater, major companies have to think in terms of social responsibility."

Society, the environment and employee welfare now take on increased importance in corporate thinking—not only in terms of Japan, but on a world-wide basis. It begins with the desire to make an economic contribution. Says Canon USA President Hideharu Takemoto, "We have advanced technology and useful production techniques. We want to contribute to the countries where we do business."

It extends beyond the economic role to community involvement. Canon sponsors the Greater Hartford Open. NEC funds the U.S. Davis and Federation Cup tennis teams. Fujitsu supports the Concord Jazz Festival.

Hitachi and Matsushita have had charitable foundations in the U.S. for some years. Toshiba is setting up a \$23 million foundation. Hitachi has funded the Hitachi America Chair of Engineering at Stanford. Matsushita plans to donate 0.1% of the sales from its U.S. subsidiary to charity.



KIKKOMAN IS BROADENING
ITS BIO-TECHNOLOGY BASE.

Globalization: Crossing Cultural Boundaries

The changing nature of the Japanese corporation is also evident as Japanese business globalizes. The process of investing offshore is extremely wide-spread now, driven partly by the value of the yen, partly trade friction, partly strategic diversification.

The process of globalization is evident in changing attitudes as well as capital investments. Kikkoman Executive Managing Director Yuzaburo Mogi, whose latest book is *Overseas Investment Without Friction*, pinpoints the need to localize management—on a "when in Rome" approach—and delegating real authority, as two key moves to success overseas.

Ricoh President Hiroshi Hamada talks of six steps involved in a factory overseas taking root, starting with knockdown assembly, increasing local content, export, further localization of content, technology and design, then localization of management and finally localization of ownership through a public offering.

"When you put a manufacturing plant in," Hamada explains, "it takes years to take root. But I believe that once a plant is built it should be there forever."

Fujitsu is another company that has gone a long way towards globalization, both in terms of production and management approach. "It is far easier to change manufacturing techniques than to create a true trans-cultural company," observes President Takuma Yamamoto.

日経ビジネス 1988 5-16 海外とファースト・ネームで付き合う 大平さん、宮沢さんに民選し続けた

NIKKEI BUSINESS 5-16 海外とファースト・ネームで付き合う 大平さん、宮沢さんに民選し続けた

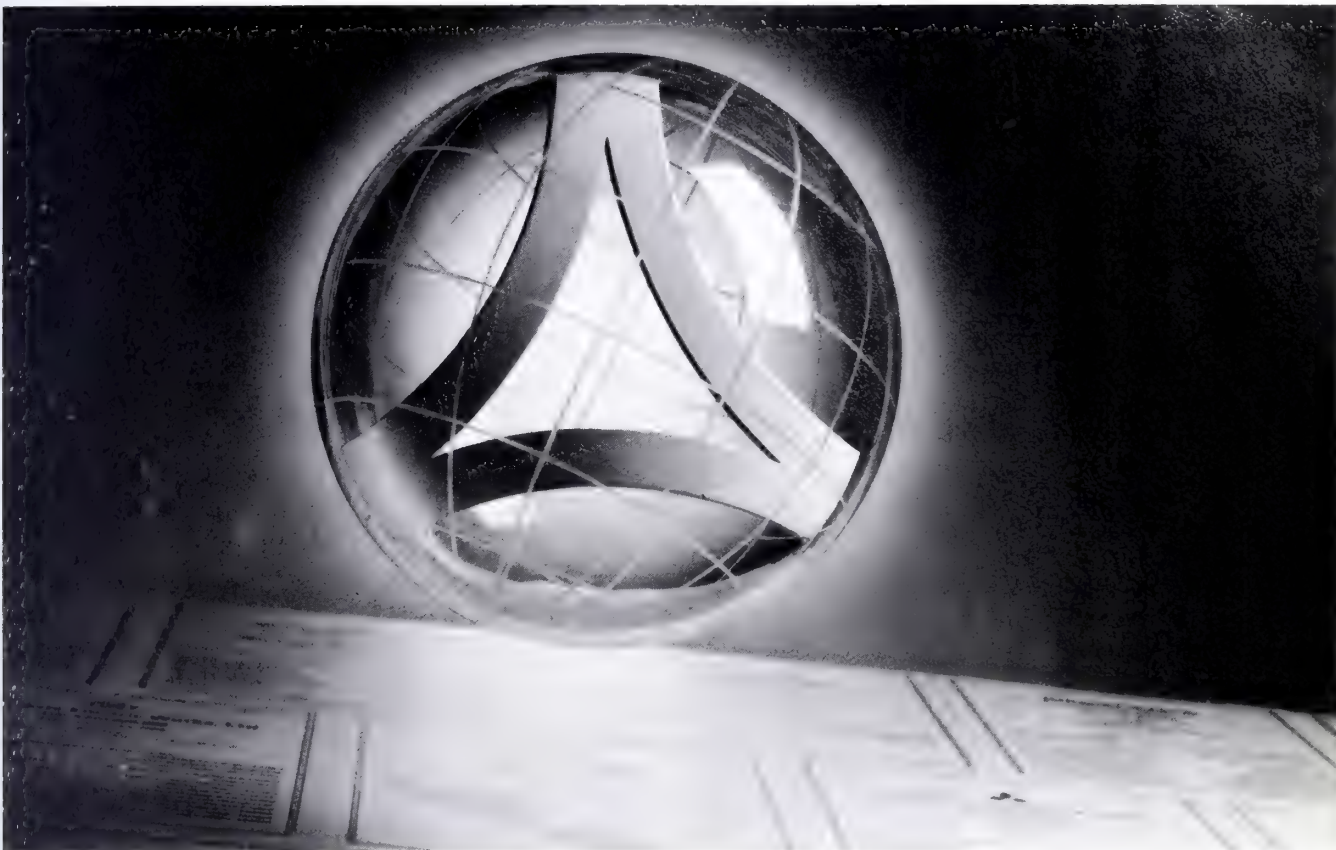
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How Fujitsu helps a legendary railroad make history.

The Union Pacific Railroad is not just a company, it's a call to the consciousness of a nation. Created by Abraham Lincoln's signing of the Pacific Railroad Act of 1862, it laid tracks across a wild continent from Omaha, Nebraska to Promontory, Utah, where it met the Central Pacific coming from the sea. A golden spike marked the birth of America's first transcontinental railroad.

Settled the American West

Union Pacific settled the American West, carrying hundreds of thousands of pioneers into the world of wide open spaces. It made history then, and it's *still* making history: today it is one of America's most progressive railroads, with 23,000 miles of track in 20 states, 30,000 employees, and a reputation for far-sighted thinking in every area of its operations—including its remarkable communications network.

Nationwide network

Union Pacific owns a private voice and data communications network, one of the largest in the world. Covering tens of thousands of miles nationwide and functioning as the railroad's central nervous system, it is extremely sophisticated and absolutely crucial to the company's success. Which is

why, when Union Pacific recently decided to upgrade the network, it turned to Fujitsu.

Number one computer maker

Fujitsu is Japan's number one computer maker, and one of the world's top telecommunications makers, with 100,000 employees, annual sales of \$16 billion, and projects completed in a hundred countries. A high-tech giant that's a major force in the global information revolution, Fujitsu gave Union Pacific a multi-nodal integrated voice and data communications system that is the next generation of business telecommunications. The system will boost productivity, upgrade customer service, and help the railroad keep making history—by helping it be what it has always been: a living legend that knows where the future is.



Jim Merrick of Union Pacific talks to Jay Schrimpl of Fujitsu before the Fujitsu F9600 ISDN switching system. Union Pacific recently purchased a number of such systems, the most advanced in the world, to function as node points in its nationwide communications network. For information call Fujitsu Business Communication Systems at 1-800-654-0715.

FUJITSU

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Decentralizing Authority

A growing number of Japanese companies are reorganizing their overseas operations to take into account the realities of doing business on a global scale. Matsushita, for example, has established regional headquarters in Secaucus, New Jersey, for North America, London for Europe and Singapore for Asia.

By shifting control over regional sales, marketing and manufacturing, all of which had been located in Osaka, the company believes it can be more efficient in its decision-making and be a better corporate citizen. Matsushita also takes pride in appointing an American, Richard Kraft, to head its North American holding company, Matsushita Electric Corporation of America.

"At Toshiba," says Senior Executive Vice President Kinichi Kadono, "we take a multipolar approach." The company has already decentralized in Europe and North America and is looking ahead to Asia. Its North American holding company, Toshiba America, has annual sales of \$3 billion and 4000 employees. "With the new arrangement," Kadono adds, "we can contrib-

ute to the community without referring everything to Tokyo."

The Investment Flow Continues

Overall, Japan's direct investment last year was more than \$33 billion—compared with a total of \$71 billion invested for 1951–84. Over half Japan's current investment goes to North America, reflecting a fundamental goal of Japanese corporate globalization.

"NEC ships its products to 145 countries," observes President Dr. Tadahiro Sekimoto. "A decade ago we began thinking about local production and realized we needed to put plants close to our markets. Obviously we paid considerable attention to the U.S., which is our largest market after Japan." Today NEC has 25 factories outside Japan, including seven in the United States. Its U.S. workforce exceeds 7000.

Hitachi has a similar approach. "You need a different strategy for each part of the world," explains President Katsushige Mita. "For the U.S. our strategy was to shift production there of products being exported in large vol-

A Nose for Taste

Tastes as American as Del Monte tomato ketchup. As English as Lea and Perrins Worcestershire sauce. And as French as a Grand Vin Bordeaux.

The favored flavors of the West have been brought to Japan by Kikkoman Corporation.

Three centuries' experience, early market globalization, and consumer involvement give Kikkoman a keen sense for successful cross-cultural marketing ventures.

Further testimony to leadership and innovation are Kikkoman's far-ranging biotechnology and food development activities.

So the next time you think of Kikkoman, think again. We're a whole lot more than soy sauce.

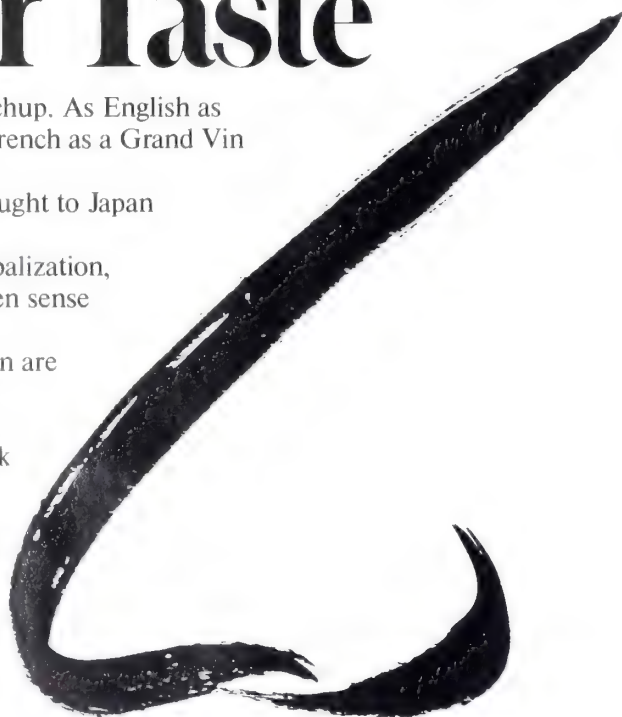


KIKKOMAN

Kikkoman Corporation

1-25, Kanda Nishiki-cho, Chiyoda-ku, Tokyo 101, Japan

Production facilities: Japan, USA and Singapore; Subsidiaries: Hawaii, Canada, West Germany, Hong Kong and Australia.



ume from Japan, as quickly as possible." These included high technology products, such as semiconductors, computers, peripherals, and automotive electronics. "Our top priority is to provide products and service that meet our customers' needs," he adds.

Canon USA has 4,500 employees and sales of \$2.6 billion—a third of its parent's worldwide revenues. "Our policy is internationalization, which results in manufacturing many products locally for the market where they are needed," says President Takemoto.

The company plans to expand its 15-year-old operation in California to become the worldwide headquarters for electronic typewriter R&D and production. Most of the electronic typewriters Canon sells worldwide will now be made in the United States.

At Canon's recently opened Virginia plant, expansion is already underway, effectively doubling the facility's size. It produces copiers and laser beam printers for itself and on an OEM basis for U.S. companies, which then add substantial software and sell the product around the world. Eventually Canon USA's goal is integrated manufacturing including R&D and exports.

**CANON IS A LEADER IN
SUPERCONDUCTOR RESEARCH.**



Given Canon's demanding production requirements, the company has worked hard to identify numerous U.S. suppliers. Moreover, it also has set up joint ventures for plastic molding and metal stamping. Mr. Takemoto reports that current productivity levels are the same as in Japan.

Ricoh is one of the pioneers of Japanese manufacturing in the U.S. having started in 1973. It is now planning its fourth plant. Over the years it has also made adjustments in its production techniques because there is not the captive parts supply network which exists in Japan. Ricoh Electronics in California actively looks for potential suppliers and where none can be found, encourages Japanese companies to bring their technology. It also had adapted to the higher turnover in the U.S. labor market by offering incentives to workers to stay.

Mazda is now bringing its Flatrock, Michigan, factory up to full production and approaching breakeven. In an effort to increase local content, it is expanding its purchases of parts from U.S. and Japanese suppliers. In the mid-90s Mazda will begin using Ford engines.

"One of the principal challenges we face with manufacturing in the United States is overcoming various cultural differences, particularly that of communications," continues Yoshi Taura, president of Mazda Motor of America. "At our plant in Flat Rock we are successfully overcoming this barrier through frequent exchanges of information."



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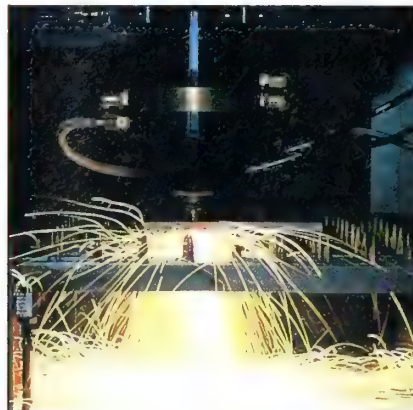
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A vital element in the development of Mazda's U.S. operation, according to Senior Managing Director Genichi Nagaoka, is to integrate further production, marketing and R&D in the U.S. "We must have R&D to be able to reflect U.S. customer demand," he explains.

According to Taura, the company has established a design and testing facility in Irvine, California last year. Together with an R&D facility at Flat Rock, this gives Mazda a broad-ranging capability. "These facilities will have responsibility for advanced design, product planning, advance certification procedures."



A KOMATSU STEEL PLANT.

KOMATSU

Mazda is already exporting products from the U.S. "The Flat Rock plant," Taura notes, "currently exports the Ford Probe to Canada and Japan. The Mazda MX-6 is currently exported to Canada and Taiwan."

Toshiba America has five business opportunity subsidiaries and manufacturing operations that range from microwave ovens to medical electronics. The new organizational structure covers design, manufacturing, sales and export.

Like many Japanese companies, Toshiba is bringing its U.S. manufacturing facilities into a global division of labor, based on cost and technology levels. For example, Toshiba manufactures 34" color picture tubes in the U.S. for worldwide sales.

Komatsu faced a slightly different situation from most Japanese companies. It wanted to expand operations in the U.S., but realized there was already excess production capacity. Therefore, it organized a 50-50 joint venture with Dresser Industries, creating the second largest construction equipment company in the U.S., with each partner maintaining its own product line.

"Although there were some overlaps," says President Masao Tanaka,

Case Study In Globalization: Yamaichi: Financial Services Giant For The 1990s

Yamaichi Securities is one of Japan's premier securities companies. With a solid base in excellent corporate investor relations, it ranks high in underwriting, has done well in cross-border mergers and acquisitions and is rapidly developing its bond business.

Operating globally, Yamaichi has tailored its strategy to each region. In Europe, for example, the company looks beyond the integration of the European Community's markets in 1992. "When you talk of Europe," explains Akiyoshi Ito, Director of the International Division, "you first have to distinguish between north and south—there are different conditions, different needs, different opportunities." Yamaichi, however, is ready to meet that challenge with a network covering the market, as well as a bank in Switzerland.

In Asia, the company supports its traditional securities business with an important venture capital capability. This allows Yamaichi to handle mezzanine deals and stimulate local stock markets. Again, since each country



YAMAICHI'S AKIYOSHI ITO

YAMAICHI SECURITIES

market differs, Yamaichi has had to develop specific expertise on each. While the deal flow is not yet large, the long-term investment should pay off.

Ito is frank that Yamaichi is still in the process of defining a fully effective strategy. "It is a difficult market," Ito acknowledges, "and we're obviously looking for ways to improve our performance. We don't want to cut back."

One step in the right direction, Ito feels, is a link with Lodestar, a U.S. LBO and fund management company.

Japan, of course, is Yamaichi's home ground. "We have long historical relations with our clients," observes Ito, Deputy General Manager of the International Business Department, "and a mutually beneficial exchange of information." This supports Yamaichi's trading know-how and investor services worldwide.

The Tokyo Stock Exchange, now the world's largest in capitalization, is headed up towards further records, according to Ito. "We expect the Nikkei-Dow Jones Average to close at 40,000 by year's end," he says.

"To understand why," he explains, "you have to look at the supply and demand curves—those are what count." Traditionally, a large proportion of the outstanding shares of major Japanese companies—in some instances as much as 70%—simply do not trade. That means there is enormous buying pressure on the rest.

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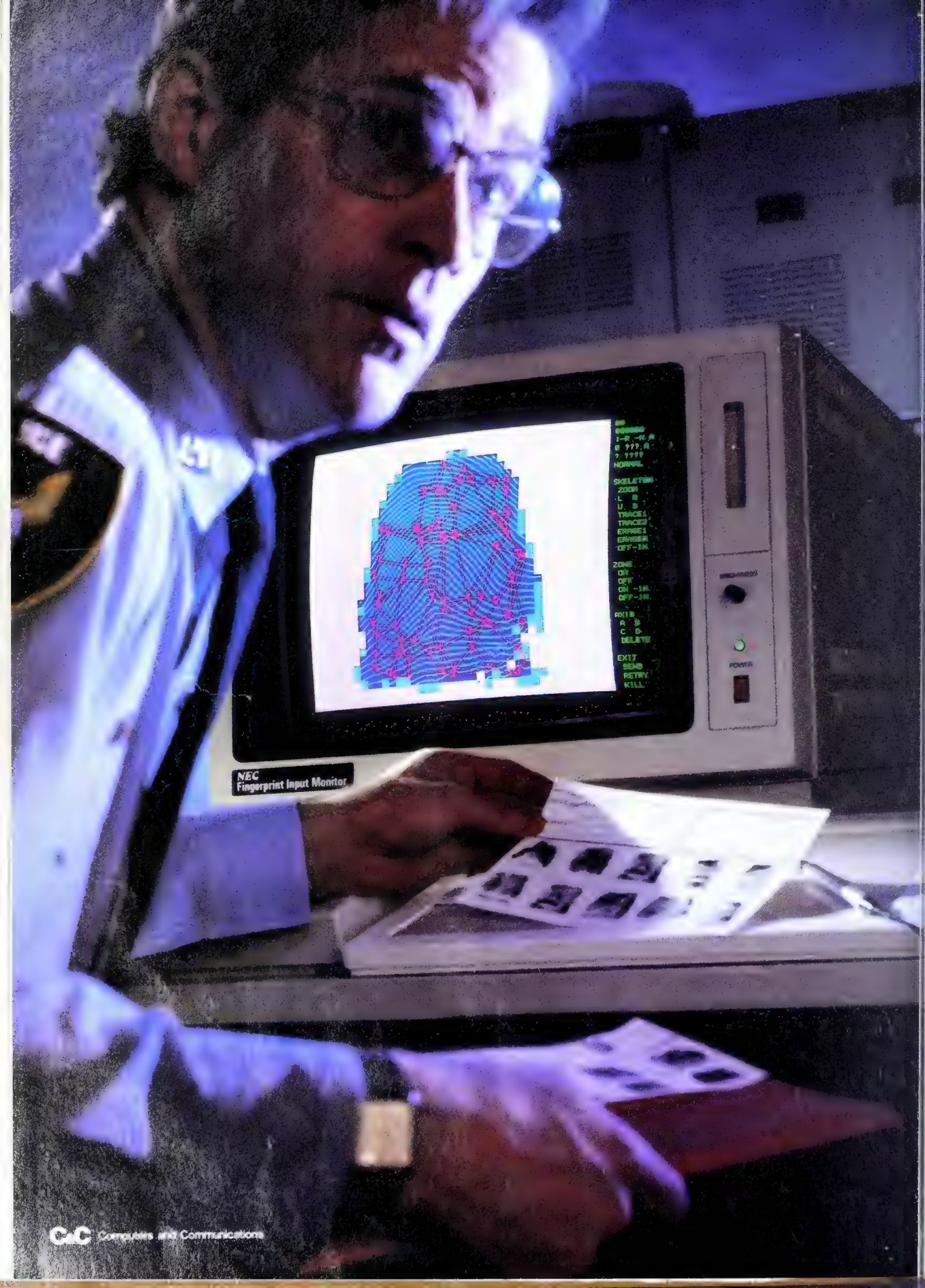
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10:34 AM

NEC helps the Chicago Police solve a fifteen-year-old murder mystery.

An unresolved murder baffled the Chicago Police. It sat in their files year after year with only a single clue: fingerprints lifted from the victim's car.

The prints proved useless — until detectives put NEC's revolutionary Automated Fingerprint Identification System (AFIS) on the case.

Within 20 minutes, a suspect who had gotten away with murder for 15 years was identified.

He was later arrested.

The quality and reliability of NEC's around-the-clock system is currently at work in police departments all across America.

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"there was also a lot of complementarity. Dresser wanted engineering, production and design capability, which we could offer. We needed highly skilled labor and a good supplier network, which Dresser had."

Matsushita Electric Corporation of America has a turnover of \$4.6 billion, nine thousand employees and nine major manufacturing locations. New production facilities include a color picture tube plant in Ohio and alkaline battery plant in Georgia.

Fujitsu is another Japanese company with extensive operations in the U.S., much geared to providing service and products tailored exactly to customer specifications—including a

24-hour hotline. Fujitsu has also created a U.S.-based product development facility.

In the contentious area of semiconductors, its effort to develop its new Oregon factory demonstrates Fujitsu's ambition to be fully integrated into the U.S. semiconductor industry. "Texas Instruments is part of the Japanese industry," explains President Yamamoto, "so we want to be part of the U.S. If we succeed, ultimately there may come a time when there are no boundaries in this industry."

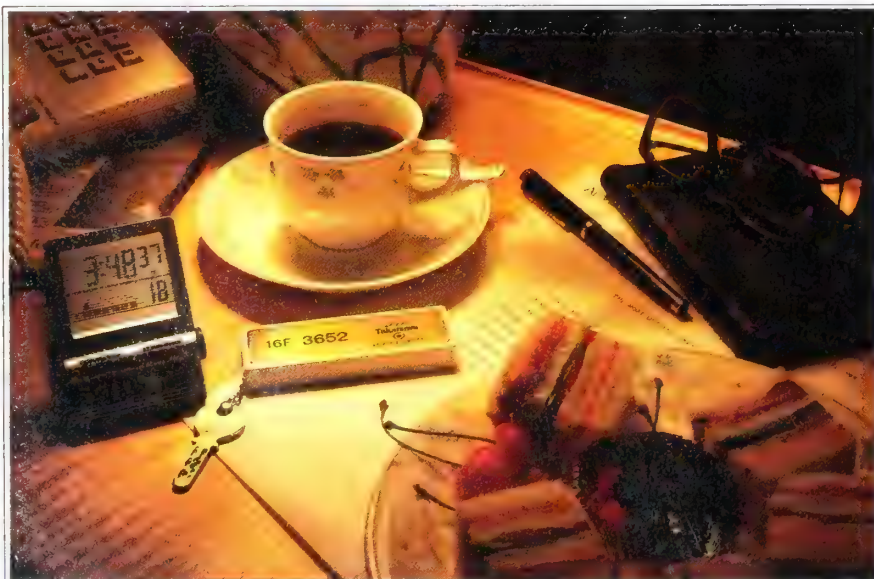
Seiji Suzuki, president of Mitsubishi Kasei, Japan's major chemicals company, might extend that ambition to all aspects of technology. Mitsubishi Kasei is in the process of diversifying and recognizes that internationalization is a key to the process. It already has ten ventures underway in the U.S. in various fields, including a floppy disk factory in Virginia. "Whenever we find a feasible investment," Suzuki says, "we invest more."

Japanese investment in the U.S. includes service companies as well. Meiji Life Insurance is Japan's oldest insurance company. At home it is developing what it calls *finansurance*, a comprehensive range of financial services for individuals and business. In the U.S., apart from close relations with companies like Avon and Caterpillar, it has set up subsidiaries in 18 states. "We are looking for partners with know-how and a network in both the U.S. as well as Europe," observes President Terumichi Tsuchida.



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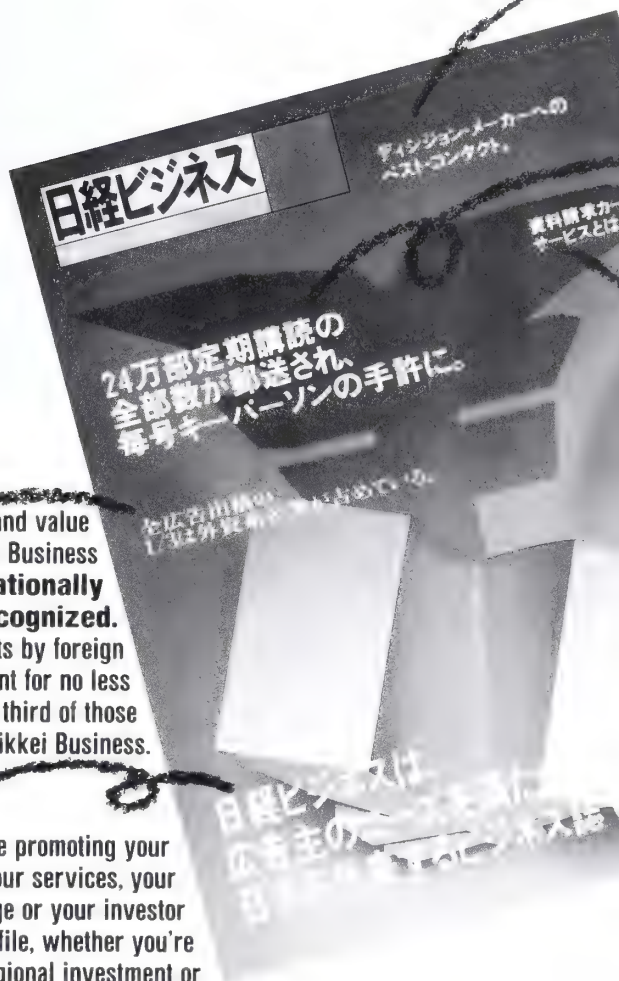
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Looking To 1992

Historically, Japan's direct investment in Europe has not been great. But last year it jumped 90% as Japanese companies began to get ready for the unification of the European market in 1992. "We have to be on the inside in Europe," explains Hitachi's Mita, "and to that end we have to invest."

Britain is the most popular destination, as Mita notes, because of language and the government's positive attitude toward Japanese investment. Last year it accounted for a third of all new Japanese investment in Europe. Nissan and Toyota are putting plants there. Toshiba makes VCRs. Brother Industries is already there, as is Komatsu. Matsushita produces VCRs,

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Japan's Leading Business Magazine





microwave ovens, printers, electronic typewriters and color televisions.

Japanese investment is making a contribution elsewhere in Europe too. Mazda will open a new research center in Germany, as a key step in determining exactly what kind of luxury car it should produce for the European market. Canon makes electronic typewriters in France. Fujitsu has an important R&D operation in Spain. Matsushita

makes VCRs, copiers and electric motors in Germany; hi-fi tuners and VCRs in France; and VCRs in Spain.

Technology Transfer

In terms of manufacturing, perhaps the most important share of Japan's direct invest flow now goes to Asia. It is estimated that between 1984 and 1993 total new investment will add \$70 bil-

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IN THAILAND, MALAYSIA
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lion to Asia's industrial base.

Hitachi has operations in Thailand, Malaysia and Singapore. Matsushita makes air conditioner compressors and motors in Malaysia and color TV chassis in Singapore. Fujitsu produces semiconductor devices in Singapore and electronic components and keyboards in Malaysia.

"It is not easy to maintain product quality," notes Fujitsu's Yamamoto, "but with training there and in Japan, and inspection, the quality is just about the same as Japan."

NEC has had comparable experience. In Malaysia the introduction of highly trained problem-solving teams brought a ten-fold increase in semiconductor production.

Again this investment is in response to the high value of the yen and fears that imports from low-cost producers will capture Japanese markets. Already imports from Korea, Taiwan, Hong Kong and Singapore are up significantly. Sales of imported VCRs, for example, totalled 250,000 units in 1988 compared to 14,000 in 1987, while bicycle imports rose from 40,000 machines in 1986 to 850,000 last year.

Most people know Sumitomo Metals as one of the world's leading steelmakers. But what isn't often widely known is that Sumitomo Metals also has a reputation for nursing new companies into existence—many as joint ventures—in a wide range of fields that include health care, information, communications and electronics.

Sumitomo Metal Information Systems

Corporation, our joint venture with IBM Japan, Ltd., for example, will develop and service strategic information systems for a wide variety of industries. Another recently concluded agreement with Lam Research Corporation, U.S.A., will greatly expand Sumitomo's semiconductor

equipment operations. And we've also moved into the medical and biotechnology business by establishing SMI-Bristol Co., Ltd., a competitor in the rapidly growing field of clinical testing in Japan.

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SUMITOMO METALS





Significantly, the goal of Japanese investment in Asia now is not just low-cost labor, as it was in the '60s and '70s, but rather control of the production process. It comes with a high level of technology transfer, and Japanese investors encourage their suppliers either to follow or to help local companies take their place. This creates the basis for industrial integration heretofore lacking in the export sector of many Asian economies.

Emphasis On Cooperation

Apart from direct investment, there is an increasing level of cooperation between Japanese and foreign companies. The Komatsu-Dresser link is a good example.

Komatsu is considering a comparable venture in Europe. "We must always examine carefully what we should do," Komatsu's Tanaka says. "We must look at the capacity of the construction equipment manufacturing industry in Europe." An increase in capacity might exacerbate conflict with local companies.

In Asia Komatsu seeks to establish links with local companies. "We are trying to promote the procurement of parts and components and so expand our ties," Tanaka continues. In Korea Komatsu has transferred its cast steel technology to the Samsung group and

now buys 500 tons a month in return.

Mazda, of course, has been closely linked to one of its major shareholders, Ford, for many years. "Whenever we think about the U.S.," notes Mazda's Nagaoka, "we have to keep Ford in mind. We try to maintain our independence, but also remain reliable partners."

"In the past we exported OEM cars and parts to Ford," Nagaoka continues, "now it is the other way." Ford glass is now being shipped to Japan, and recently Mazda joined Ford and Matsushita in a joint venture to develop a new generation of automobile air conditioners.

Another important collaboration is Honeywell-Bull, which links NEC with Honeywell of the U.S. and Bull of France. "We have had good relations with Honeywell for more than twenty-five years," notes NEC's Dr. Sekimoto. "Even before the joint venture we would supply both companies various super-large computers on an OEM basis."

Hitachi has entered into a joint venture with EDS. "EDS," Mita says, "is the world's largest software house. We are a hardware manufacturer. We can cooperate with EDS around the world."

Toshiba has extensive foreign links. It has a joint R&D project with GE and Tokyo Electric Power in nuclear energy, a joint venture with United Technologies in fuel cells, and is working with Cummins Engine on fine ceramic materials for truck engines. Recently, it seconded a top 1Mb DRAM researcher to head Hewlett-Packard's VLSI design lab. It is also collaborating with the University of Arizona on a total digital imagery system for clinical analysis in medicine.

Retailing is an area of increasing importance. Barney's has joined forces with Isetan, a major Japanese department store. Dickson Poon, Hong Kong's top luxury products marketer, has cut a deal with Marubeni to open upwards of 150 boutiques in Japan for Poon's new S.T. Dupont luxury product line.

Ricoh aims at further diversifying into a comprehensive supplier of information processing equipment for office automation. "We don't have all the technology," says President Hamada. "Therefore, we decided to work with companies that have strength in key areas." It markets AT&T computers, has a joint venture company with AT&T producing key telephones, and the two partners recently launched Ricoh's Starlan, local area network.

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EXPANDED INTO NEW
MATERIALS AND
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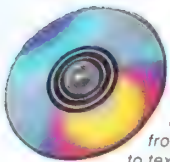


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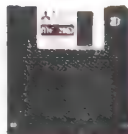
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MITSUBISHI KASEI



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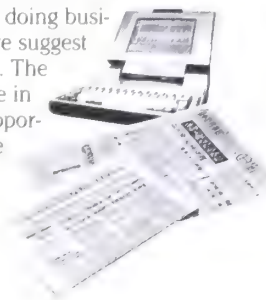
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More Stress On Diversification

Ricoh's expansion into a comprehensive office automation supplier is typical of the transformation going on in Japanese industry. Often companies seem almost driven psychologically to remake themselves, lest they lose out on tomorrow's technology. At the same time, others show remarkable patience in nurturing that technology.

Kikkoman makes one of the oldest 'bio-technology' products, soy sauce. It is steadily broadening its biotechnology base. "This is the age of electronics," says Kikkoman's Mogi. "The 21st century will be the age of biotechnology."

Mitsubishi Kasei takes a similar approach. It has expanded from its original base in coal, coke and chemicals, to include the life sciences, biotechnology, new materials and pharmaceuticals. Its pharmaceutical research effort, now some fifteen years old, has already yielded six new products.

"Chemical technology must expand its activities toward other industries, such as electronics," says President Suzuki. "Our future will be directed toward those industries which will lead to new downstream uses."

The Changing Market

Underlying changes in global organization and corporate purpose is the continuing evolution of the Japanese

market. Two areas are increasingly important: information as well as travel and leisure.

Nikkei Business Publications, Japan's leading business magazine publishing house, continues to expand its offerings. By October it will have 23 publications. It projects a million subscribers and 30,000 ad pages.

In travel and leisure the Hotel Okura reports the proportion of Japanese to foreign guests is now about equal, indicating a maturing of the market. The Okura recently completed a \$50 million renovation of rooms and facilities, introducing state of the art audio-visual equipment and giving guest rooms the capability to accommodate whatever advanced communications or computer equipment guests need.

The New Otani is one of Tokyo's top hotels that is adjusting to a changing marketplace. President Yoneichi Otani remarks, "Customer needs and preferences are changing rapidly. Therefore, the hotel is launching a phased renovation over the next five years which will include enlarging many guest rooms."

HOTEL NEW OTANI



THE NEW OTANI IS LAUNCHING A PHASED RENOVATION.

Another key part of the New Otani's program is the Garden Court intelligent office building, adjacent to the hotel in the New Otani's extensive gardens. "Tokyo has become a 24-hour city," Otani explains. "Designed with tomorrow's needs in mind, this building will provide what business needs." Since it is part of the hotel complex, it will be an ideal location for those companies with many foreign executives visiting.

The text of this special advertising section was written by Christopher S. Gray, Ph.D. Dr. Gray is an expert on business in Asia and a frequent visitor to Japan.



MOST OF WHAT WE HAD TO SAY ABOUT BUSINESS THIS MORNING WAS UNPRINTABLE.



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(All Times Eastern)	1st 1/2 hr	2nd 1/2 hr	3rd 1/2 hr	4th 1/2 hr
Top Business News	6:30	7:00	7:30	8:00
Financial News	6:35	7:05	7:35	8:05
Small Business News	6:40	7:10	7:40	8:10
Special Business Features	6:50		7:50	
CEO Close-Ups		7:15		8:15
Internat'l Business Line		7:25		



Letter From the Outer Banks



SEA CHANGE? SOME FISHERMEN SAY DRILLING RIGS COULD HELP THEIR CATCHES

BIG OIL HAS CAROLINA ON ITS MIND

John Buscemi left Morgan City, La., last year because he couldn't stand the sight of the oil refineries, storage tanks, and port facilities that lined the region's once-pristine beaches and dune areas. Grieved by what Big Oil had wrought on the Gulf Coast, Buscemi packed up his family and moved here to the Outer Banks of North Carolina.

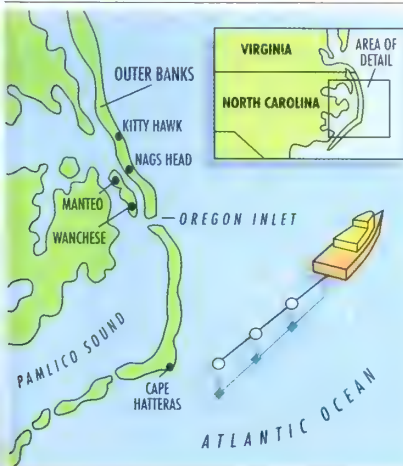
This 175-mile ribbon of sandy barrier islands has long been a haven for beachcombers, naturalists, and other refugees from commercial blight. In recent years, tourists and real estate developers have discovered the area. During peak summer weekends, more than 100,000 tourists sometimes show up from as far away as Canada to overwhelm the 3,500 permanent residents and destroy their solitude. But while they are here,

the visitors drop about \$400 million annually into retailers' tills.

Now, however, a serious year-round threat looms on the horizon, giving people like John Buscemi nightmares. Mobil Corp., leading a consortium of eight oil companies, has said it intends to begin exploring for oil and gas 38 miles off Cape Hatteras next spring. Even though other oil companies have drilled dozens of wells off the Atlantic coast with little success, Mobil says it now believes it could be sitting on one of the nation's largest deposits of natural gas, as much as 5 trillion cubic feet. "This is potentially a huge discovery, perhaps the largest hydrocarbon find since Prudhoe Bay," says William C. Whittemore, general counsel for the New Orleans division of Mobil.

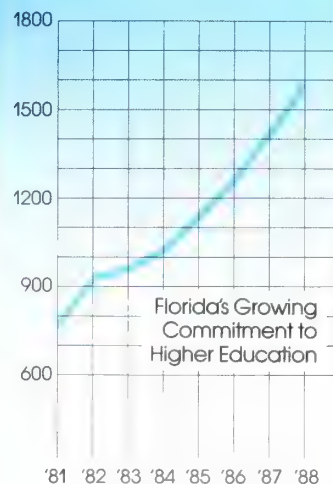
Across the hamlets here, from Duck to Nags Head to Salvo, the prospect of Texas towers rising off these shores has galvanized the normally laid-back populace. Once-docile town meetings now overflow with crowds of 300 or more, many from hastily formed protest groups with such names as LegaSea. And one coastal county, Dare, recently amended its land-use ordinances to prohibit any petroleum facilities. "We're not antidevelopment," insists Linda Mizelle, a dental hygienist-turned-activist. "But this is beyond development—this is large-scale industrialization. Does every frontier area left have to be opened up?"

Some local opponents insist that the waters are too deep and treacherous to



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be safely explored. The spot the companies want to search is known as the Point. It is where the Continental Shelf and the Gulf Stream meet. "It's not a routine well," concedes Mobil's Whittemore, "but the technology is proven."

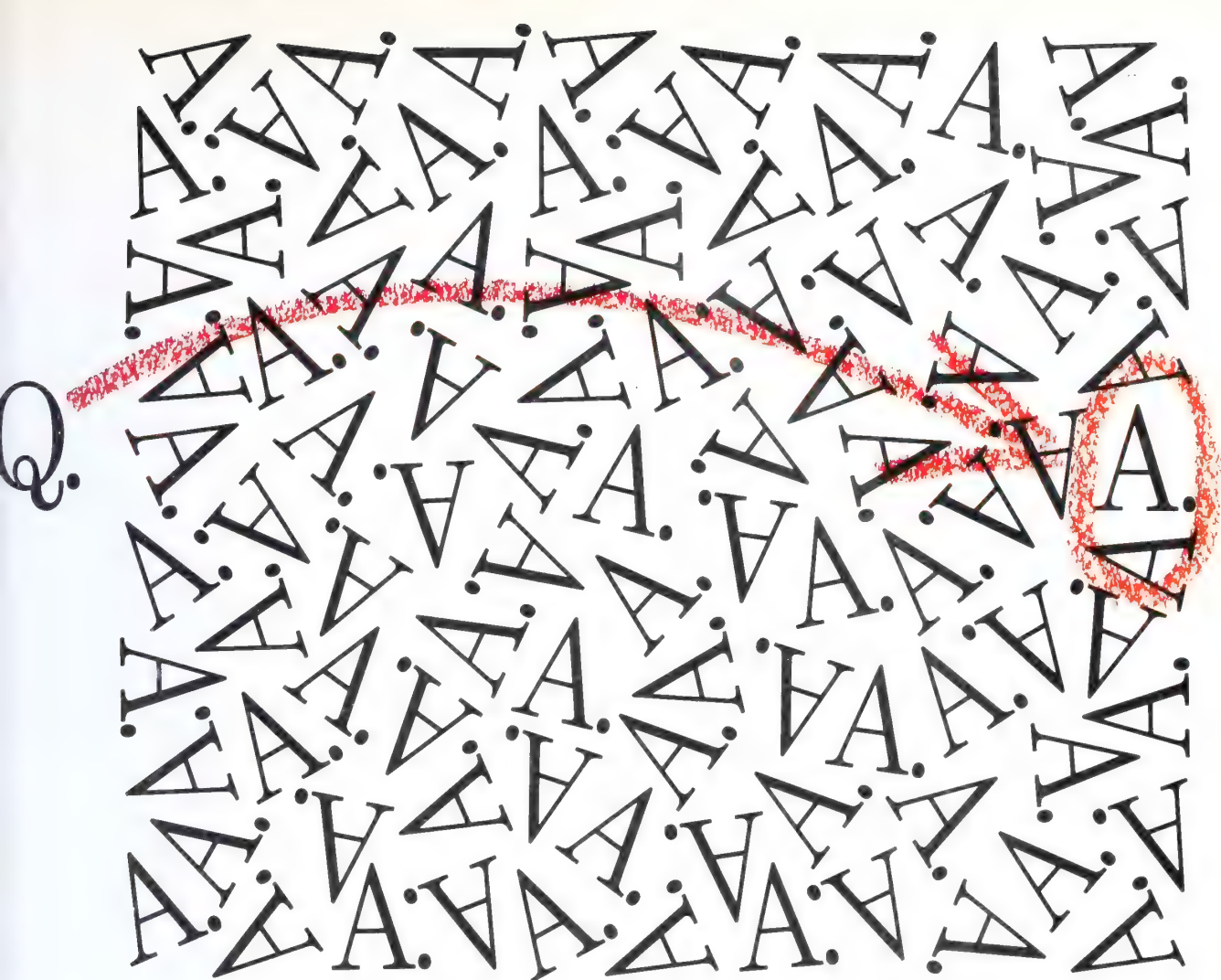
STREAMSIDE. Many islanders contend that the drilling could ruin the region's fishing economy. Mobil is planning to drill within the fast-moving Gulf Stream, where croaker, sea trout, and 100 other species spawn. Environmentalists worry that a single spill at the drilling site or a tanker accident such as the Exxon Valdez or those that recently occurred near Philadelphia, in Rhode Island, and in Texas could affect fisheries all the way to Newfoundland. "The Gulf Stream is one of the most critical fishing areas in the country," says Manteo Town Commissioner Luther H. Daniels, a retired naval engineer. "Who knows what happens if you upset the balance?"

Ironically, Mobil's strongest support is over in Wanchese, where the fishermen

Drilling here would be tricky. More than 600 ships have been lost in 'the Graveyard of the Atlantic'

anchor their trawlers. One of their biggest headaches is that the sandy islands keep shifting around and obstructing passage through the Oregon Inlet to the open ocean. Since it is the only passage from the protected sound to the Atlantic for 50 miles, they hope that the oil companies might erect jetties to keep it open for their own vessels. The fishermen also believe the platforms would actually attract fish. "When they go putting towers and barges up, that's the best fishing around," says 59-year-old Gilbert "Moon" Tillet, a craggy veteran of 45 fishing seasons. He scoffs at the opponents of the drilling, many of whom have become recent converts to energy alternatives. "Give these people a horse and see how long it'd take them to get to Norfolk," says Tillet as he spoons out fish chunks to a swarm of stray cats. "I don't see how these oilmen could be half as bad as these tourists running around here."

LOST COLONY. For me, a North Carolina native, the Outer Banks have always been a special place because of both their physical wildness and their romantic history. In the 1580s, more than 20 years before Jamestown, Sir Walter Raleigh tried twice to start permanent settlements here, but the first group gave



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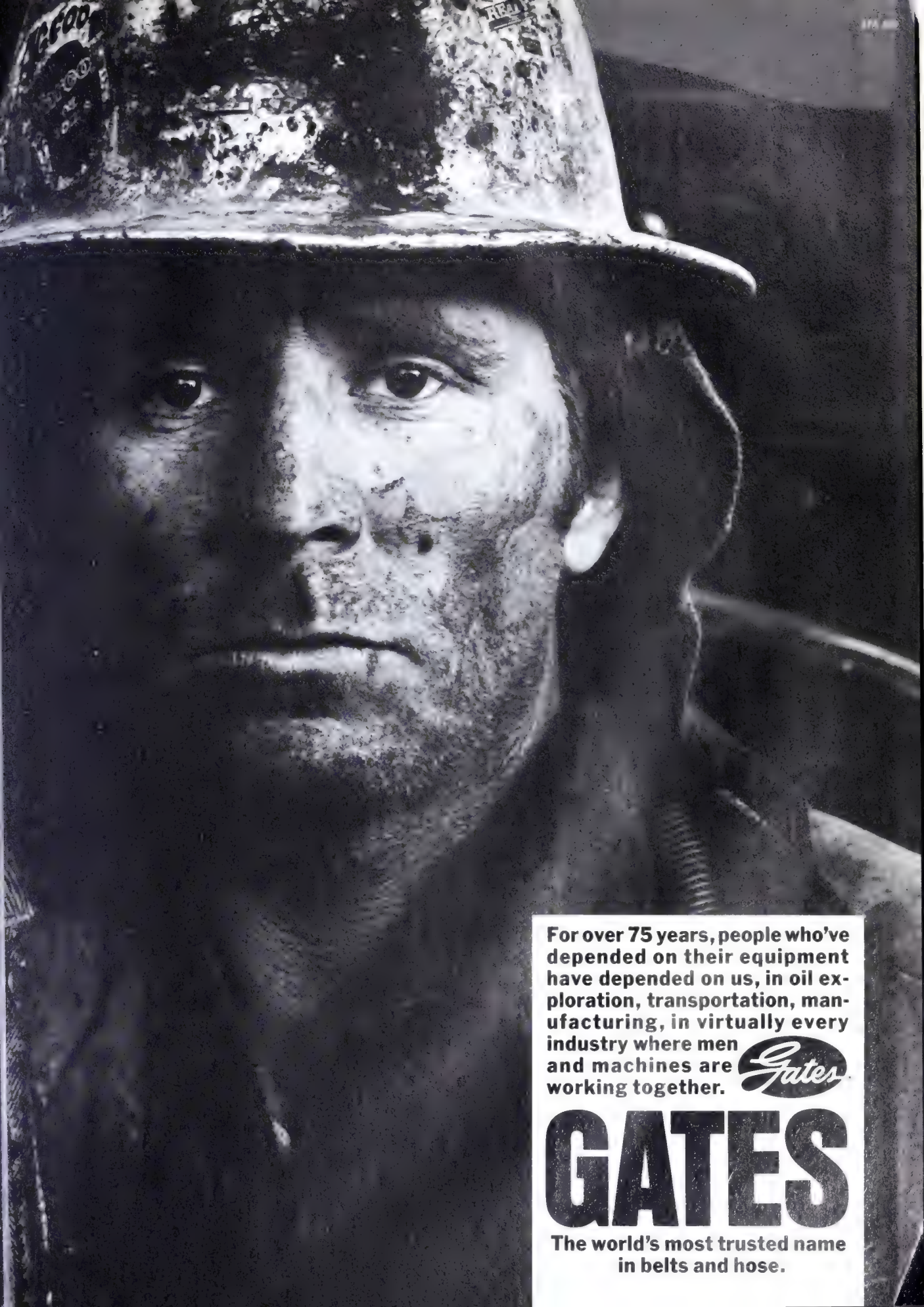
"Once had a tornado drop in near
us. We just kept putting joints in
the hole.

"Still, winter's the worst. Night
shift. 60 mile-an-hour winds.
50 below zero. It's bitter. Only way
to keep warm is to keep busy. Keep
your gear going. When the pipes
are moving and the tongs are
moving, you're moving.

"Last thing you want is for some
line or machine to foul up. Then
you've got to stop.

"But the cold, the cold never
shuts down."

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up and went home and the second became known as the Lost Colony. Three hundred years later, we still don't know what happened to them.

Then came the scavengers, who lived off the many ships that sank in the area's violent offshore storms, and the pirates, who didn't wait for such acts of fate. Edward Teach—a.k.a. Blackbeard—hung out in the coves around here and plundered passing vessels until one fateful raid off Ocracoke Island in 1718. This is also the place where the Wright brothers braved four brutal winters before successfully launching their rudimentary airplane from the dunes near Kitty Hawk.

WILD HORSES. Now you can take a 30-minute tour of the area in an airplane for \$15. From above, the fragility of the Outer Banks is especially evident. The view from a few hundred feet up shows that the islands are nothing more than long slivers of sand, just a few hundred yards wide in some spots. The pilot of our four-seat Piper Cub dipped just behind the surf to point out the passing schools of dolphins, sea turtles, and skates that still claim these waters as theirs. We could also see black shards of wood buried along the beach, remnants of the more than 600 shipwrecks that earned the Outer Banks the title "Graveyard of the Atlantic." Near one ship lies a newer victim of the ocean: a collapsed ocean-front home, one of 50 destroyed last February by a "nor'easter."

As a child, I used to come here on vacation in the summers with my family. Until this recent trip, I hadn't returned in more than 15 years. Even without the oil drillers, much has changed. In Corolla, there still are the wild horses whose ancestors were stranded from wrecked Spanish galleons in the 16th century. But the beachfront homes near where they graze have jumped more than threefold in price since 1985, says real estate agent Betty Brindley.

Many islanders concede they probably won't be able to out-muscle the oil giants, so their best hope may be to set the terms for drilling. North Carolina's governor, James G. Martin, promises to take Mobil to court if he believes drilling would threaten the coast. Prodded by his constituents, one local lawmaker recently introduced a bill in the state Senate that would hold drillers liable for all costs of cleaning up spills, as well as any damages to business or property. But John Buscemi insists he'll do whatever's necessary to stop the rigs. "My main concern," he says, "is that what happened in Louisiana never happens here."

BY DEAN FOUST

Atlanta Correspondent Foust now wants to return to the Outer Banks on vacation.

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FACTORIES THROTTLE DOWN FAST— AND THAT COULD BACKFIRE ON THE ECONOMY

The economy is headed for a severe test in the second half: Can it slow down without slipping into a recession? The question is coming up more frequently now because of the growing weakness in the all-important manufacturing sector. Last year, factories were hitting on all cylinders. But now sharply slower growth in consumer spending is causing it to sputter.

That's because the consumer slowdown is concentrated in goods purchases—as opposed to services—and mainly reflects the impact of earlier hikes in interest rates on durable goods. The slump in housing, with its broad impact in related markets, is also a factor. The result has been weaker factory orders, rising inventories, and a slowdown in industrial output.

Manufacturers' new orders for both durable and nondurable goods fell 2.5% in May, to \$234 billion. The decline was concentrated among durable goods, where orders fell 4.5%, to \$123.6 billion, a bit more than the government's originally reported drop of 4.2%. Orders in the nondurable sector dipped 0.1%, to \$110.4 billion.

Factory orders have gone nowhere since December. More disturbing, the backlog of unfilled orders—including aircraft—is now shrinking. The booming aircraft industry, which accounts for some 40% of all unfilled orders, has been propping up the backlog. Except for aircraft, unfilled orders have fallen for three consecutive months. Without a freshet of demand in coming months, some industries may face production cutbacks.

SHARP DROP IN (PORT ORDERS

The softness in manufacturing continued into June, according to the National Association of Purchasing Management. The NAPM's index of business activity fell to 41.1 in June, its lowest in nearly three years (chart). The index is a composite reading of orders, production, employment, inventories, delivery times, and prices, and is heavily weighted toward the industrial sector. The most ominous sign was further weakness in new orders. In fact, the NAPM's order index fell sharply, to its lowest level since September, 1984. Moreover, the reason given for the downturn in orders may be more ominous than the drop itself. The purchasers reported a steep decline in export orders, one of the factory owner's key supports.

Of those companies that sell abroad, only 18% reported

higher orders in June. That's the smallest percentage since the NAPM began tracking export orders in January, 1988. With consumer demand already slowing, continued health in the factory sector increasingly depends on strong foreign demand. However, the dollar's first-half strength may be taking its toll.

A key area to watch is factory inventories. Manufacturers have kept stock levels lean relative to sales throughout this expansion. But if demand continues to slow, inventories could rise faster than desired. That could trigger production cutbacks in the second half.

Although still low by historical standards, the ratio of inventories to sales in manufacturing already shows signs of creeping up. Reflecting a 0.6% rise in inventories in May, to \$365.5 billion, compared with a 0.2% decline in shipments, to \$233.5 billion, the ratio rose to 1.57 in the month from 1.55 in April.

During the first five months of 1989, factory inventories have risen 3.2%, nearly three times faster than shipments, which have slowed to a growth rate of only 1.2%. The recent upward trend is visible in the ratio's three-month moving average (chart).

One important benefit from the factory sector's slowdown is exactly what the Federal Reserve Board has been trying to achieve: easing inflationary pressures. That's a consequence of developing slack in production capacity. The NAPM said that for the first time in 34 months, more purchasing executives reported price decreases than increases. The 10 items reported in short supply was the smallest number since October, 1987.

BUILDERS AREN'T GAINING GROUND

Manufacturing isn't likely to get much help from construction in the second half. Both residential and business building are pretty much dead in the water—and likely to stay that way.

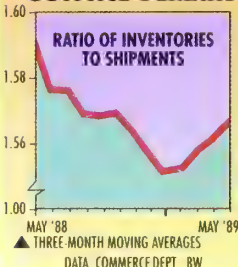
Although construction spending jumped 1.3% in May, to \$421.3 billion, the erratic government sector, which normally accounts for only one-fifth of total construction, was responsible for all of that spurt. Spending in the private sector was unchanged in May, and the private totals for both April and May were well below the first-quarter average. That's true for both residential and nonresidential sectors.

New contracts for building projects, a leading indica-

MANUFACTURING IS SLIPPING



FACTORY STOCKPILES OUTPACE DEMAND



Business Outlook

tor of construction spending, aren't signaling much in the way of coming strength. According to the F.W. Dodge Div. of McGraw-Hill Information Services Co., the value of new contracts fell 3% in May, to \$249.9 billion (chart).

However, that drop did follow a spring rebound that has caused Dodge to upgrade its 1989 construction outlook. All that means, though, is that construction this year will not be down as much as originally thought. On balance, construction is likely to be no stronger in 1989 than it was in 1988.

What strength there was in May contracts showed up in the nonresidential sector, which posted an 11% jump in new projects. The increase was broad, reflecting advances in both commercial and industrial building and in institutional projects. But a 9% drop in the far larger residential sector more than offset the nonresidential gains. Home building is construction's weakest area right now—a reflection of sagging demand.

True, new single-family home sales in May rose 2.7%, to an annual rate of 613,000, following a 9.1% jump in April. But sales had plunged almost 12% in March, so the second-quarter average sales rate is 11% below its first-quarter pace, at an annual rate.

Existing home sales have also stagnated: They haven't posted an increase since December, 1988. And in May, home resales fell 5.6%, to an annual rate of just 3.2 million—their lowest sales pace in more than a year.

Affordability is the main reason for the slump in housing demand. Over the past three years, the median price of new homes has outpaced the growth in disposable income. What's more, the sharp runup in interest rates

last year increased buyers' monthly mortgage payments.

There are some recent signs that these factors are easing. For one, disposable income is rising faster than home prices so far this year—although first-time buyers still have some catching up to do. And mortgage rates probably peaked in April. That helped contribute to the rise in sales for that month and May.

Since rates continued to edge down in early June, sales for last month might have also increased. And if mortgage rates stay around the 10% mark—where they are now—they could put a floor beneath home sales and keep them from falling in the third quarter.

A DRY SUMMER FOR HOUSING

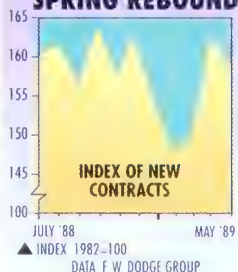
But that situation won't necessarily help residential construction. That's because at the end of May, the supply of unsold new homes stood at its highest level since the last recession. So builders have little incentive to begin any new projects.

Already, housing starts in the second quarter are running at a 40% annual rate below their first-quarter pace—which was 10.2% below their fourth-quarter average. That means residential construction, which subtracted three-tenths of a percentage point from first-quarter gross national product growth, was probably an even bigger drag in the second quarter.

Surprisingly, sales of home-related goods—furniture, appliances, and carpeting—held up relatively well in the first quarter. But they weakened in the second quarter, a big factor holding down consumer spending last quarter. And with a smaller number of homes being sold, this sluggishness may extend into the third quarter as well.

All in all, new sources of economic strength just don't seem to be forthcoming in the second half. Although that means the Fed is getting much of what it wants in the way of reduced price pressures, it could also mean that keeping the expansion on track will be increasingly difficult.

CONSTRUCTION'S SPRING REBOUND



THE WEEK AHEAD

PRODUCER PRICE INDEX

Friday, July 14, 8:30 a.m.

Most economists expect that producer prices for finished goods edged up 0.1% in June. Cost increases in energy goods slowed, after jumping 3.3% in May. The slowdown in consumer spending will most likely keep price hikes for consumer goods modest in coming months. In May, finished-goods prices rose 0.9%. So far this year they have risen at a 9.4% annual rate, compared with a 4% rise for all of 1988.

RETAIL SALES

Friday, July 14, 8:30 a.m.

Retail sales most likely inched up just 0.2% in June, after a 0.1% rise in May.

Lower volume in car sales will offset gains at other retailers. The June increase could be larger than expected, if sales of nondurable goods rebound from their flat performance in May. However, most of that gain would reflect higher prices, especially for gasoline, and not an increase in real volume.

INDUSTRIAL PRODUCTION

Friday, July 14, 9:15 a.m.

Most economists expect that output at the nation's factories, mines, and utilities increased a scant 0.1% in June. The small rise is yet another indication of the economy's slowdown in the second quarter. Production was flat in May, with a 0.1% decrease in manufacturing output. However, in April, total output jumped

0.6%. So the expected June gain would mean industrial production rose at a 2.3% annual rate in the second quarter—slow, but still higher than the 2.1% pace in the first quarter.

CAPACITY UTILIZATION

Friday, July 14, 9:15 a.m.

The expected modest gain in industrial output in June suggests that operating rates fell slightly in that month, probably to about 83.7%. In May, 83.8% of total capacity was in use, and manufacturing operating rates stood at 84%. Operating rates for the industrial sector as a whole have been edging downward since their expansion high of 84.3% posted in January. This trend has eased capacity pressures on prices.

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A JULY SURPRISE FOR GORBY?

BUSH'S TRIP TO EASTERN EUROPE PROVIDES A CHANCE TO UPSTAGE THE SOVIETS

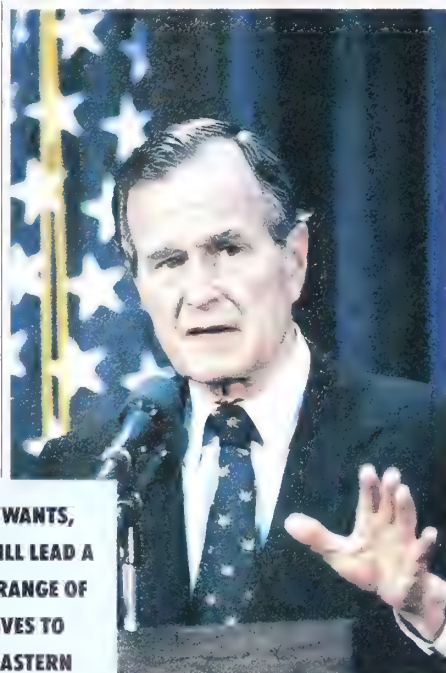
When President Bush lands in Warsaw on July 9 on a historic visit to Poland and Hungary, he'll have a chance to beat Mikhail S. Gorbachev at the Soviet leader's own game of jack-in-the-box diplomacy. As perfected by grandmaster Gorby, the way to grab the initiative in superpower relations is to craft bold proposals in secret, then spring them into public view for maximum surprise value.

Bush showed a flair for the one-upmanship in May, when he wowed a NATO summit with a surprise proposal to slash conventional forces in Europe. The President is now arduously lowering expectations for his East bloc sojourn, leaving Western leaders wondering if there isn't something special in that plain brown package under his arm. Bush himself isn't talking. When asked about his foray into Gorbachev's backyard, Bush was diffident: "It's what Woody Allen said: '90% of life is just showing up.'"

But the Poles—Communists and reformers alike—are counting on the President to do a great deal more. Unless the U.S. can deliver a substantial package of economic aid, they warn, the Polish economy could collapse, threatening the warming of U.S.-Soviet relations.

A WATERSHED. Bush's goal is to draw Eastern Europe, the heartland of the Cold War, toward Western political pluralism and free-market economics. Just as the East bloc is moving decisively westward for trade, technology, and investment, Moscow is showing willingness to tolerate limits on the Communist Party's monopoly on political power, a situation that was inconceivable just two years ago. "The line between East and West is getting fuzzy and moving further east," says a senior U.S. diplomat in Poland. "The geopolitical divide in Europe is going to vanish."

The half-century-old division of Eu-



IF BUSH WANTS, KOHL WILL LEAD A BROAD RANGE OF INITIATIVES TO BRING EASTERN EUROPE FURTHER INTO THE ECONOMIC ORBIT OF THE WEST



rope will not, of course, disappear overnight. But in Poland, Bush has an unprecedented opportunity to influence the direction of the Warsaw Pact's largest and most strategically important member. The risks are also vast. With its Communist Party discredited by the first open elections in 40 years, Poland's long political crisis is nearing a watershed—and the President has injected himself into the middle of it. The result could be sweeping economic and political change—or chaos that might threaten Gorbachev's whole reform drive.

Party chief Wojciech Jaruzelski's startling June 30 decision not to run for the country's presidency has intensified the already dizzying political jockeying between the Communist Party and Solidarity, which began as a union but has evolved into the political opposition. Some Solidarity leaders have proposed a cohabitation arrangement with the Communists. But in so doing, Solidarity would risk its popular support. Poland's economy is tottering (page 62), and further deterioration would discredit the opposition if it is part of a governing coalition.

WISH LIST. Bush, too, is on the spot. For years, the U.S. has promised East bloc nations financial aid if they reformed their creaky political and economic systems. With Warsaw having done virtually everything Washington asked for, the President is under pressure to provide some tangible rewards. "President Bush can't say there isn't enough democracy in Poland. We have so much democracy, we don't know what to do with it," says Communist Party Central Committee member Aleksander Kwasniewski.

Administration officials have long believed that Poland is the least predictable country in Eastern Europe and that severe instability in the strategically important nation might force a military crackdown. "If Bush fails to come through, it could provoke riots," warns Jan Lityński, a member of Solidarity's executive committee—and a man no



**HUNGARIANS
REMOVE A FENCE
ON THE AUSTRIAN
BORDER: "THE
GEOPOLITICAL
DIVIDE IN
EUROPE IS GOING
TO VANISH," SAYS
A U.S. DIPLOMAT**

bove a bit of long-distance lobbying. At the top of Solidarity's wish list is \$10 billion in Western aid over the next few years to restructure outdated industries, unify exchange rates, reduce commercial bank debt, privatize industry, and restore the balance of payments. Bush won't offer anything near that figure. But Administration officials recognize that they have to offer meaningful help. "When the President returns from Eastern Europe, there will be a substantial, qualitative change in relations," promises one senior State Dept. official. **RAZOR'S EDGE.** For openers, Bush is expected to offer a relatively modest \$100 million in emergency aid to stave off food shortages. And the President will support \$1 billion in new lending to Poland through the International Monetary Fund and the World Bank. A bigger boost could come from debt restructuring by the Club of Paris, the group of official lending agencies that holds two-thirds of Poland's debt. The club is believed to have placed an informal moratorium on Polish debt service this year. Debt will be on the agenda when Western leaders gather in Paris on July 14 for their annual economic summit (page 61). If Bush really wants to be dramatic, experts say, he'll announce in Poland

that he's seeking Allied agreement for a large-scale restructuring of Polish debt.

Any Western assistance will come with strings attached. During the 1970s, Western lenders watched as East bloc regimes squandered billions in borrowed money. This time around, the West is insisting that the money be used to finance restructuring, not just to placate consumer demand. "The key to progress is reform," says a senior Administration official. "We can't funnel enough money to make a difference."

To that end, Bush will highlight private investment in Eastern Europe. In Hungary, the freest economy in the East bloc, Western firms have launched more than 350 joint ventures this year. In May, Dow Chemical Co. announced it was investing \$15 million in a joint venture with two Hungarian companies to produce Styrofoam insulation for construction. And Remington Products Inc. plans to assemble electric razors there.

Poland offers fewer investment opportunities, but that won't stop Bush from trying to score political points. In Gdańsk the Bushes are expected to lunch with Solidarity leader Lech Walesa and his wife, Danuta. Bush will also salute Barbara Piasecka Johnson, the Polish-born heiress to a piece of the John-

son & Johnson fortune, who plans to purchase a majority interest in the Lenin Shipyard, Solidarity's birthplace.

IDEAL PLATFORM. Clearly, the President is hoping his visit will enhance his rising stature as a world leader and blunt Gorbachev's vision of a "Common European House" in which U.S. influence would be diminished. And in an escalating global chess game, Administration officials hope Bush will score the kind of public-relations victory Gorbachev has won with his visits to West Germany and other countries.

Poland offers the perfect platform. Bush will be feted both by Solidarity and by the government, which is putting on a parade in his honor. And Bush will take great pains to court public opinion. He'll lay wreaths both at Poland's Tomb of the Unknown Soldier and at the Solidarity Workers' Memorial. The main event, though, will be the President's July 10 speech to the Sejm, the Polish parliament. It is there that he'll outline his plan for American aid.

Because Bush goes immediately to the

Top of the News

Paris summit after his trip to Poland and Hungary, his visit takes on added importance. Western European officials have been reluctant to take the lead in assisting the East bloc's reform efforts. West German Chancellor Helmut Kohl has indefinitely postponed a planned late July visit to Poland, citing the unsettled political climate in that country. But if Bush gives the go-ahead, Kohl stands

ready to take the lead in advancing a broad range of initiatives that will further integrate Eastern Europe into the Western economic system.

Since taking office, Bush has defended his hardline stance toward Moscow by arguing that the U.S. has little influence over internal Soviet affairs. But as he journeys to Gorbachev's client states, the situation is different. By visit-

ing Poland at a time of political crisis Bush may have the greatest opportunity since World War II to affect the direction of European change. However, he needs to bring concrete—and expensive—relief. For now, no one knows whether Bush plans to back his grand gesture with a big slug of U.S. cash.

By Bill Javetski and Richard Fly in Washington, with Gail Schares in Warsaw

POLAND'S TRIAL-AND-ERROR TRANSITION

Barbara Piasecka Johnson, the Polish-born heiress to much of the pharmaceuticals fortune of J. Seward Johnson, wants to buy 55% of the dilapidated Lenin Shipyard in Gdansk. But when she asked Polish officials what it was worth, no one knew, not even the general director of the shipyard. "The numbers in Polish accounting books are picked out of the sky," says Jacek Siwicki, a Gdansk consultant who participated in buyout talks with Johnson.

Welcome to the upside-down world of a socialist economy, where everyone and no one owns the nation's industry. Companies have no valuation, since they don't change hands. And profits are illusory, distorted as they are by huge government subsidies and wishful East bloc exchange rates.

Charting a course from communism to capitalism is the No. 1 issue in Poland. With the economy in ruins and the population near revolt, the Communist leadership has shifted from insistence on an authoritarian regime and central planning to a new vision of political pluralism and a European-style market economy. But the transition is a chaotic one. "No country in the world has experience closing down a communist system," says Solidarity member Ernest Skalski. "Unfortunately, we have to use trial and error."

That process began with Solidarity's landslide election victory on June 4. The result set off a flurry of political maneuvering. Solidarity at first refused to join a coalition. But on July 3, opposition leaders suddenly reversed their stance, offering a French-style cohabitation government with Communist party leader General Wojciech Jaruzelski as President and a Solidarity Prime Minister and Cabinet. Although the opposition rank and file may reject that plan, it's clear that an unprepared



SALVAGE JOB IN GDANSK? LENIN SHIPYARD MAY BE FOR SALE, BUT NO ONE KNOWS ITS VALUE

Solidarity, with no government experience, will have far more policymaking responsibility than it anticipated.

Just drafting a blueprint for reforms that both the government and Solidarity leaders support could take two years. The first step is for Poland's newly elected parliament, which includes members of both the government and Solidarity, to hammer out a privatization policy. One plan calls for allowing the public to use coupons to buy stock in state-owned enterprises. But critics point out that the scheme will inject no new capital in industries badly in need of restructuring.

FOREIGN HANDS. That's where Western democracies come in. Hungarian-born U.S. financier George Soros advocates a strong dose of foreign investment. Under his proposal, an independent agency created by the Paris Club group of creditors and the Polish government would reorganize state enterprises into publicly traded companies and sell the assets to foreign and domestic investors. Up to one-third of the capital generated by privatization would go toward servicing Poland's \$38 billion debt. Although Soros' plan has some support among government

and Solidarity leaders, putting significant control of Polish industry into foreign hands is sure to meet resistance.

While Parliament gets to work, Poles are starting down the path to a market economy by doing what they do best—improvising. Andrzej Machalski, assistant director of an association of 6,000 Polish private-business owners, in June invited top executives from the Italian conglomerate IRI to Warsaw to talk about joint ventures. Chairman Romano Prodi and 14 senior managers flew in on June 25 and began discussing a slew of ventures, from a credit bank to a management training center.

Machalski and other entrepreneurs see joint ventures as one way to jumpstart the economy, and Polish emigrés such as Johnson have seized the initiative. But most foreign investors are likely to shy away until the political situation stabilizes. As Poland stumbles toward a market economy, both Communists and Solidarity activists need to learn the art of compromise. If they don't, the promise of recent days will give way to the crisis politics of the past.

By Gail E. Schares in Warsaw

THE GROUP OF SEVEN WON'T BE SINGING HARMONY

Japan and Germany may balk at Bush's call to spur domestic demand

After months of expensive and largely futile attempts to keep the surging dollar in line, leaders of the top seven industrialized countries will gather in Paris on July 14 to try to revive the flickering flame of international policy coordination. But don't expect the Group of Seven to kindle a new bonfire of enthusiasm for joint action at President Bush's first economic summit. Although one U.S. Treasury aide still believes G-7 economic coordination "is alive and thriving," behind the scenes, many countries now seem to be far more concerned with domestic matters.

That stance won't sit well with the Bush Administration, which is concerned that progress in lowering the U.S. trade deficit is stalling. "We expect the Germans and the Japanese to pick up some demand so that G-7 growth rates remain steady," says one senior official, adding that "we're asking for some commitments." But West Germany recently unveiled an extra \$3 billion in deficit spending, which comes on top of about \$12 billion in tax cuts previously set for

1990. Germany and Japan will argue that further stimulus will only result in rising inflation.

In fact, even as the Federal Reserve considers easing monetary policy to prop up the U.S. economy, Japan, Germany, and other European nations are moving to cool inflation by tightening money (chart). The Bundesbank, worried that inflation this year will hit 3% as the German economy continues to surge, on June 29 hiked the discount rate for the fifth time in less than a year. And with Japanese wages and raw material costs rising rapidly, the Bank of Japan on May 31 raised its discount rate by three-quarters of a percentage point, to 3.25%.

The Japanese may move again after elections for the Diet's upper house conclude on July 23. More informally, the central bank has urged major Japanese commercial banks to restrain domestic lending to help slow money growth even further. On top of that, with the Japanese gross national product expected to

rise by 4.8% or more this year, "there is no need for further relaxation" of fiscal policy, says Toyoo Gyohten, Japan's chief international finance aide.

If the summit participants are unable to agree on further economic stimulation abroad, neither will they come away with a new plan to stabilize the dollar. It has retreated 7% in recent days, to about

But the G-7 may be more
in tune on ecology
and Third World debt

1.90 West German marks and 140 Japanese yen. But some G-7 members are balking at committing themselves to keeping it at this level indefinitely.

Bush Administration aides think the dollar needs to fall further to restrain imports and give exports an additional boost. But many currency traders are betting the dollar will stage another re-

The G-7 seems set to undertake a more flexible and far less ambitious strategy than it has attempted thus far. No longer willing to give the impression that it's trying to keep the dollar within a clearly defined target zone, the G-7 will let currencies float more freely than they have in years. "They may have to acknowledge their limitations," says David H. Resler, chief economist at Nomura Securities International Inc.

'NEW DEBT STRATEGY.' With no strong initiatives on currency volatility or economic growth, the G-7 will devote lots of time to giving the debt-relief strategy of Treasury Secretary Nicholas F. Brady a much-needed push. Japan, anxious to show continuity at a time when the ruling Liberal Democrats are in turmoil, will reiterate pledges of up to \$5 billion to back international efforts to lessen Latin America's debt load. "We want the summit to mark the crowning of the new debt strategy," says a top French Finance Ministry official.

But here, too, the G-7's efforts may amount to more rhetoric than reality: Discussions between commercial lenders and Mexico to restructure that country's \$70 billion foreign bank debt have bogged down. So the U.S. won't be able to show its G-7 brethren how the major intended beneficiary of the Brady plan could put the program to work.

The U.S. also expects to take heat from its allies over the decision to name Japan, Brazil, and India as unfair trad-

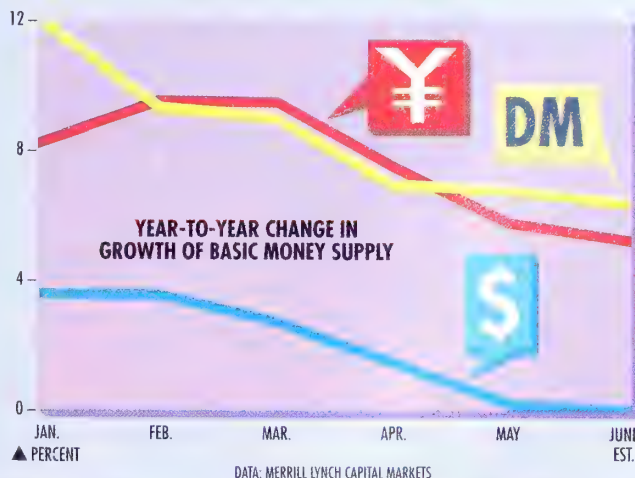
ers. But on one front, there should be little dissent. With ecology a hot political issue in America and Europe, as much as a third of the final summit communiqué will be devoted to a declaration on environmental protection. It will include international commitments to clean the air, protect oceans, contribute toward reforestation of the tropics, and support better evaluation of the environmental impact of Third World development projects.

Like many G-7 summits, this year's, set amid the glittering celebration of the bicentennial of the French Revolution, will end in a round of warm

toasts. With foreign economic growth still strong, there's likely to be little of the crisis atmosphere that has marked past meetings. Yet many disagreements remain just below the surface. It may take another economic shock before the G-7 acts together again.

By Blanca Riemer in Paris, with Richard Fly in Washington and bureau reports

SLOWER MONEY GROWTH FOR THE BIG THREE



covery in a few months, especially if the scandals besetting Japan's ruling Liberal Democratic Party lead to severe electoral losses. Indeed, central bankers now see limits to what they can do via intervention in the currency markets to contain the dollar's next upsurge. "We can't intervene at all costs," concedes Karl Otto Pöhl, president of the Bundesbank.

Commentary/by Elizabeth Ehrlich

IF PRO-CHOICE IS MAINSTREAM, NOW'S THE TIME TO PROVE IT

The Supreme Court's 1973 decision in *Roe vs. Wade* made life a lot easier for many American women. It assured access to safe, legal abortions based on privacy rights it held were guaranteed in the Constitution. *Roe* was in tune with a new era of freedom for women to determine when they are physically, economically, and emotionally ready to have children. And the constitutional guarantees seemed, for most people, to put the issue beyond politics.

But the court's July 3 ruling in *Webster vs. Reproductive Health Services* has changed all that. Although the right to legal abortion stands, the ruling throws the issue out of the lofty realm of constitutional law and into the grittier political arena of lobbying and lawmaking. That promises to put the democratic process to the test—and force pro-choice women to flex their political muscle—and ensures more agonizing social and political division.

The majority's opinion chips away at *Roe* in two ways. The court upheld the state of Missouri's right to ban abortions in public hospitals. And it lets Missouri require doctors to test the viability of a fetus believed to be at least 20 weeks old before an abortion can occur.

CASTING A CHILL. Since "viability" tests are expensive, some poorer women won't seek abortions. In that way and others, the court has invited state lawmakers to further obstruct and limit what remains a constitutional right. And there is every sign of further challenges to that right. For antiabortion forces say they will press for legislation in every state to add still more restrictions. And next fall, the Supreme Court has agreed to hear three cases that may result in new ways for states to impose additional restrictions.

All this inevitably will cast a chill on women in the mainstream of America. Since 1973, no fewer than 20 million legal abortions have been performed. Thousands more each year undergo amniocentesis, a medical test which screens the fetus for severe chromo-



PRO-CHOICE AND PRO-LIFE FORCES CLASH AT THE HIGH COURT

some abnormalities that cause such conditions as Down's syndrome. A positive result in amniocentesis—available only in the 20th week or after—often leads to the decision to terminate the pregnancy. Under the Missouri statute upheld by the court, such a fetus now may be deemed viable.

Survey after survey demonstrates that a majority of Americans support abortions under certain circumstances. And that raises a troubling question: If support for abortion rights is so widespread, what do pro-choice forces have to fear from political battles in the statehouses? Is that not democracy at work? Two reasons for the fear: First, an abiding sense that political vagaries should not intrude on women's right of privacy. Second, a concern that in an open political battle, pro-choice forces will lose—despite their majority status.

Behind that concern is the cold political fact that abortion foes have succeeded in staking out the moral high ground: after all, they're "pro-life."

But there is a morality that pro-choice forces can champion. They can stress the trampled rights of a growing number of suffering children. Already in our midst are millions of kids who are poor, undernourished, and lacking in basic health care. The foster care system is chock full of "unadoptable" children—babies with black skin, fetal alcohol syndrome, AIDS, children who have been orphaned, abused, or just plain abandoned.

To decrease the need for abortion, to create a better society where all babies are born wanted by their parents, requires a commitment to contraception and education that anti-abortionists have never made. Pregnant, unwed teenagers—who get 40% of all second-trimester abortions—are still the object of censure, not teaching, emotional support, and counseling. And as for the state's role in protecting the rights of fetuses before the final trimester, far more attention should be paid to promoting good prenatal care and other support.

For pro-choice activists, part of the political problem has been that among those Americans who believe in a woman's right to choose, many express some moral uncertainty. That's hardly unnatural: The relationship of a woman to the fetus growing within her is subjective, shifting, at times ambiguous—even for some women committed to abortion rights. Many who do not now regret having undergone abortions still agonized over the choice. And many other Americans personally oppose abortion but believe women should have the right to choose. This ambivalence has kept the majority from taking to the streets to defend the right that they support.

Pro-choice organizations claim that's changing. If true, that could be to the good. As the court's current direction portends, it may be dangerous to rely too heavily on an institution to protect the rights of free women and men. Vigilance—the willingness of those at the grass roots to fight the everyday political battles—still is the price of a healthy democracy.

DREXEL RUSHES IN TO SAVE A FALLEN DISCIPLE

A costly bailout of Integrated Resources puts its credo to the test

The gospel according to Drexel Burnham Lambert Inc. holds that, through debt, companies will attain salvation in the form of worldly success. So when one of its indebted devotees falls victim to financial misfortune, the investment firm is sorely vexed.

That's the case with Integrated Resources Inc., a onetime highflier whose problems began in 1986, when Congress ended the tax-shelter advantages of its primary product, limited partnerships. Drexel is going all-out to help this client out of its bind, in what is widely seen as a test of whether the firm's philosophy is snake oil or something purer.

WOOPING IN. With Drexel's encouragement and assistance, Integrated from 1986 to mid-1989 more than doubled its debt, to \$1.8 billion, using the proceeds to diversify into insurance and mutual funds (table). But cash from the new ventures was slow to arrive and fresh capital hard to find. Integrated's attempt to attract a friendly buyout from H Corp., an insurance conglomerate with its own financial woes, fell apart when Integrated's bankers blanched at the deal. As Integrated's demand for cash grew more urgent, the market for its commercial paper dried up, and the banks cut off its credit line. On June 15, the company defaulted on \$955 million of short-term debt. Against Drexel's advice, it tried to persuade creditors to ac-

cept a suspension of debt payments for 18 months. It failed.

Now, Drexel is swooping in to redeem its client with an offer that would give lenders a package of cash and securities worth as much as 80¢ on the dollar. To finance the swap, Drexel intends to lend Integrated \$100 million and line up \$200 million more in loans via a private offering. "They certainly aren't shirking their responsibilities to us," says Arthur H. Goldberg, Integrated's chief executive officer.

Wall Street expects a favorable response from creditors, led by Chemical

DREXEL'S DUET WITH INTEGRATED RESOURCES

1978 Drexel Burnham Lambert signs on as investment banker for Integrated Resources

1981 Drexel sets Integrated on a course of ballooning its debt to fund expansion into limited partnerships, a new tax shelter made possible by a change in tax law

1986 Tax reform cripples the limited partnership business. Integrated adds more debt to diversify into insurance and mutual funds

1989 JUNE 15 In the throes of a cash-flow crunch, Integrated defaults on \$955 million in short-term debt

JUNE 19 Integrated overrules Drexel and asks lenders to postpone debt payments for 18 months—a plan the creditors spurn

JUNE 30 Drexel crafts \$300 million rescue plan, including a \$100 million loan from its coffers, that would give lenders new securities and cash

DATA: BW, COMPANY REPORTS

Bank, which won't comment. Prices for Integrated's junk bonds advanced strongly on news of the Drexel bailout package. Tidings weren't as happy for Integrated stockholders. The lenders' new equity would come from doubling or tripling shares outstanding, diminishing the existing stock's value. Word of the plan further depressed prices of Integrated's already hard-hit common.

If Drexel's scheme flies, it wouldn't be the first time the junk-bond impresarios had saved a client's hide. Oak Industries and Tiger International are among those Drexel has redeemed in the past. Rescuing ailing clients "is one of Drexel's strengths," says junk-bond specialist John Perkowski, a managing director of Kluge Subotnick Perkowski & Co., an investment firm. Integrated certainly has been a loyal member of the Drexel network, buying junk debt from other Drexel adherents. Says Stephen D. Weinroth, a Drexel managing director who also sits on Integrated's board:

"We're prepared to help out with finances and advice when a client experiences problems."

CASH CRUNCH. Don't read that, however, as altruism. Drexel stands to earn a fee of some \$25 million for the restructuring, and it owns \$30 million of Integrated debt. And here's another motive: Drexel is very sensitive to charges that heavy debt makes its clients vulnerable to failure. That's an especially touchy topic following its agreement to plead guilty to securities-law violations and cut loose Michael R. Milken, the junk-bond whiz awaiting trial on related charges.

Many saw a link between Milken's departure and Integrated's cash crunch, both of which occurred in mid-June. "Michael never would have let it go this far with Integrated," says one bond trader who follows Drexel. Past Drexel bailouts were mounted before a default. The investment house discounts rumors that newly frayed communications with Integrated were to blame.

Integrated faces a rocky road ahead. It wants to spin off several money-draining subsidiaries in real estate limited partnerships and tax-sheltered annuities. Company chief Goldberg says lower operating costs should allow the breathing space for lagging business to take off. Meanwhile, billionaire investor Robert M. Bass, among others, is mulling a rescue—in exchange for control. Still, Drexel has committed its considerable resources to save Integrated. That used to count for a lot. Integrated—and Wall Street—are waiting to see if it still does.

By Larry Light in New York



DREXEL IS LENDING INTEGRATED \$100 MILLION AND LINING UP \$200 MILLION MORE IN LOANS

VESTRON IS NOW STARRING IN ITS OWN CLIFFHANGER

A string of flops has the movie and video producer scrambling to survive

In 1987, Vestron Inc. pulled off one of the great coups of the decade in the film business. The tiny Stamford (Conn.) distributor of home videocassettes fast-stepped into movie production with a blockbuster even Hollywood's top studios found hard to beat: *Dirty Dancing*, which took in \$160 million worldwide at the box office from long lines of breathless teenagers.

But the dancing—dirty or otherwise—at Vestron has stopped. The movies that followed *Dirty Dancing* have been royal bombs. And now the company is struggling to stay on its feet.

Vestron is quickly running out of cash. Chairman Austin O. Furst Jr. concedes that his company must find new financing. "We are doing our best to survive," he says. But Vestron is on the critical list: The video and movie production company acknowledges that it has failed to pay some of its vendors, but it won't disclose which ones. The company defaulted on its \$25 million revolving credit line with Wells Fargo & Co., which expired on July 3. One person close to top management says that the company may try to buy time by suing Security Pacific Corp., which had promised Vestron a \$100 million credit line but backed out of the agreement in October. Security Pacific declined to comment.

NO TAKERS. Regardless, Furst already faces the possibility that he'll have to sell the company. He's trying to raise \$20 million to \$30 million by putting Vestron's chain of 85 retail video stores up for sale. But after a month on the block, the chain still hasn't drawn any buyers. One top Vestron official says the company is now talking with British media baron Robert Maxwell about a possible buyout of the entire company. Maxwell Communication Corp. didn't respond to inquiries about whether it's in negotiations to buy Vestron.

Maxwell, or any other buyer, could pick up the company for a steep discount relative to the value stock traders gave it only weeks ago. Vestron's stock has dropped 38% in the second quar-

ter, and it closed on July 5 at \$3, giving the company a market value of \$112 million. Foreign media companies might be especially interested in acquiring Vestron's library of 1,300 home video titles, including 900 feature films. With a \$15.7 million boost from a legal dispute resolved last year, Vestron posted income of \$20.6 million on revenues of \$334.9 million in 1988. But for more than three years, Vestron's operations have been using more cash than they've produced. Negative cash flow hit \$12.8 million in the first quarter of 1989 (chart).

To save cash, Furst has been slashing expenses. In late June, he cut 140 of the 590 employees in Vestron's U.S. work force, mainly from the movie division. Furst says he will release few films until the company settles with its bankers. Without money to market and distribute any films widely, the company rules out any chance that it can be saved by releasing another blockbuster. Furst still hopes for some success from *Dirty Dancing II*, which

he plans to start producing later this year. But he has yet to sign either of the first film's stars, Patrick Swayze and Jennifer Grey.

The latest developments could bring a disappointing end for what was once a rising star on Wall Street. Furst launched the company in 1982 after he bought the Time-Life feature film library. That collection put Vestron in a strong position to ride the VCR boom of the early 1980s: Furst sold videocassette versions of his films and quickly became a leader in the market by picking up the rights to sell videos of top motion pictures. But the major Hollywood studios soon caught on, launching their own video operations and turning off the spigot to Vestron. The company now controls only about 3.6% of the \$7 billion market in video sales and rentals.

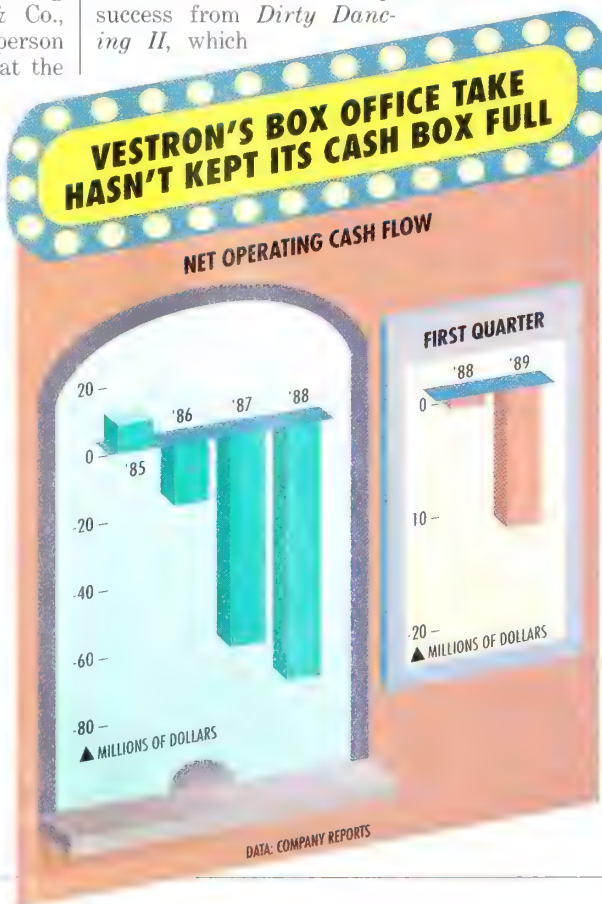
DUDES GALORE. In 1986, Furst decided to challenge Hollywood at its own game and create his own supply of films. He launched his own film production and distribution unit, Vestron Pictures. But after *Dirty Dancing*, the unit came up with a series of duds, including *Parents*, *And God Created Woman*, and *Salome's Last Dance*. In its most recent disappointment—*Earth Girls Are Easy*, starring Jeff Goldblum and Geena Davis—Vestron is likely to fall far short of the roughly \$10 million it would need at the box office to break even.

The film production expenses have hammered margins. "Their aggressiveness got in the way of good judgment," observes one independent film maker who has worked with Vestron. The cash wasn't coming in, but Vestron still paid the up-front costs for nearly 40 releases that were planned in 1988 and 1989—including fees for such stars as Jeff Daniels, Jamie Lee Curtis, and Dennis Hopper.

Vestron ran into still more problems at its retail outlets, which are called The Video Store Inc. Although Vestron pumped about \$30 million into developing the chain, the stores lost \$5 million on \$14 million in sales in 1988. The company's expansion plans ground to a halt when Security Pacific withdrew its financing from the parent.

Furst, who owns 85% of the company, already has taken some hefty losses. And with creditors closing in and no potential hits on the way, Vestron has few options that will keep it from having to face the music.

By Todd Vogel in Stamford, Conn.



ERNEST FLEISCHER FINALLY TASTES HUMBLE PIE

The thrift trailblazer's bond house is filing for Chapter 11

There were snickers on Wall Street when L.F. Rothschild Holdings Inc. filed for Chapter 11 bankruptcy protection on June 30. No wonder. Ernest M. Fleischer was finally getting his comeuppance. The mild-mannered attorney from Ottawa, Kan., had tried to match wits with the best brains on the Street. He got so good at it that Rothschild's parent, Franklin Savings Inc., became one of the most profitable—and contrarian—thrifts around.

Like many of the low-wage thrift executives who sprang up when the industry was regulated, Fleischer largely ignored traditional practices. He never cleared of simple home loans, which are the bread and butter of old-style savings and loan associations. Instead, he stocked up on the latest, new mortgage products devised by rocket scientists at places such as Salomon Brothers Inc. and Merrill Lynch & Co. Fleischer parted company with other thrift trailblazers in one way, especially sweet: He usually made money.

ARP EYE. Unfortunately for Fleischer, it can't be said of the acquisition of Rothschild, which he took over in March, 1988. In a complicated deal, he agreed to infuse \$37 million into the brokerage. But despite the new cash and the luring of pricey talent away from Merrill and Salomon, Franklin never found the right niche for Rothschild in the tough, postcrash environment. And one of Rothschild's chief attractions—its status as a primary dealer—never paid off. As one of the 43 member houses that trade Treasury securities directly with the New York Federal Reserve Bank, Rothschild brought back some cachet. Profits, though, were another matter: The market became hotly competitive as new firms entered and volume slowed, shrinking margins severely. Rothschild is asking the bankruptcy court to approve a swap in which five

classes of creditors trade in their existing, interest-bearing bonds for new, longer-maturity, zero-coupon debt. The zeroes would be guaranteed by a letter of credit from Franklin, which is taking a \$40 million pretax write-off because of the brokerage house's woes, according to Fleischer. As part of the restructuring, the brokerage firm plans to refocus on corporate finance and investment banking for small and medium-size companies. And it plans to return to the

trage"—the process of buying complicated mortgage securities and hedging the risk of interest-rate fluctuations that could damage their value. "Now everybody is doing risk-controlled arbitrage," making it much less profitable, notes Matt Lindenbaum, a thrift analyst at SNL Securities, a Hoboken (N.J.) research firm.

CHANGE OF HEART. The bad news is already showing up on Franklin's income statement. In fiscal 1986, the thrift's ratio of net interest income to operating costs was 1.65. For the 12 months ended Mar. 31, the ratio had deteriorated to 0.06, compared with an average of 1.2 for 450 publicly traded thrifts. Fleischer acknowledges that it has gotten harder to make money doing risk-controlled arbitrage but says the decline isn't as steep as it seems. Two recent accounting changes imposed by regulators both

exaggerate Franklin's 1986 income and understate its recent performance, he maintains.

To turn things around, Fleischer is again playing the contrarian. Instead of trying to grow his way out of hard times, he plans to batten down the hatches and deflate Franklin's \$10 billion balance sheet by as much as half. He'll still buy some fancy new mortgage products but will let assets and liabilities run off as they mature if there isn't a profitable "spread" to capture. And, lo and behold, he now preaches the old-fashioned investment gospel with the fervor of a convert: "We believe the role of

savings institutions is in safe, but illiquid, home loans."

Fleischer's strategy doesn't sound glamorous, but if anyone can make a tactical retreat work, he can. Despite his affinity for innovative investment securities, he is a disciplined player who can stick with a business plan, and he prefers hedging to speculating. But his tactics of using several different investment bankers to his own advantage also rubbed some on the Street the wrong way. "Now that he's in trouble, nobody's going to throw him a lifeline," says one investment banker.

Wall Street, of course, isn't used to seeing a small-town lawyer take it by storm. And it certainly isn't above gloating when the market finally rains on his parade.

By David Zigas in New York



KANSAS-BASED FLEISCHER IS COMING HOME TO OLD-FASHIONED HOME LOANS

retail end of the business by getting into discount brokerage service—a tough field, no doubt, but one in which its well-recognized name could provide an edge.

The same sort of piling-on that took much of the profit out of dealing Treasuries is now hurting the business where Fleischer made his real mark. In his halcyon days, Fleischer's sharp eye gave him an edge on the crowd in the new game of "risk-controlled arbitrage."

L.F. Rothschild's cachet faded as competition in the Treasuries market clobbered margins



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HOLY BOOTLEGGER! WHAT A LOT OF PHONY BATSTUFF!

A 'cottage industry' of counterfeiters cashes in on *Batman*

Why can't T-shirt distributor Stephen Elberts find any black T-shirts? "I've gone through 10,000 dozen black T-shirts already," says Elberts, president of S&S Inc. in Addison, Ill. "I could have sold 20,000 dozen last week."

Blame Batmania—and a flock of small

and there's an opportunity to make a quick buck."

Estimates are that nearly 25% of the Batman merchandise on the market isn't made by manufacturers licensed by Licensing Co. of America (LCA), the merchandising arm of Warner Communications Inc., *Batman's* co-producer. That obviously violates trademark laws. And just as obviously, since it means bootleggers are skimming sales and driving down prices, neither Warner nor its licensees are pleased. "Pirated merchandise is everywhere," says LCA marketing executive Karine Joret. "We are conducting raids every day."

Warner has licensed 100 companies to turn out some 300 items, including hats, key chains, sheets, a toy Batcave, coffee mugs—even Batsoap on

from small-scale buyers." Elberts purchases blank shirts from Hanes Cos. and Fruit of the Loom Inc. and turns them over, still blank, to those who print the shirts and sell them to retailers. The minimum order S&S accepts is \$25, an invitation to counterfeiters. "We sell the shirts to whoever wants to buy them. We never ask a customer what they're going to print on the shirts," Elberts says. "One customer did mention that all he was going to do all weekend was sit in his basement and screen Batman T-shirts."

Statements like that infuriate such legitimate producers as Gary Zimmerman, president of Dorfman-Pacific, based in Stockton, Calif. "A lot of retailers have waited till the reviews were out," he observes. "Now, they want the goods today. They don't want seven days delivery. Bootleggers can give them today."

CEASE AND DESIST. Typically, the way to tell licensed from bootleg merchandise is to check the label—the real thing usually carries the letters TM in a circle, the trademark symbol. Trouble is, licensed manufacturers in a hurry often skip the label step to move the merchandise faster. And bootleggers try to fashion labels that look identical to the licensees'.

Harder still is cracking down on violators. It's up to the licensor—in this case, LCA—to act against the bootleggers, first by getting a court to issue a cease and desist order. Joret notes that LCA has put teams of private investigators and lawyers on retainer around the country. "Every major licensor acts as fast as he can," says Althuler. But Zimmerman complains that isolated programs aren't enough: "If you sue their pants off, what are you going to get? A box of T-shirts?"

As it stands, that might not be so bad a haul. Zimmerman says that his "biggest business problem right now is getting black T-shirts."

By Gianna Jacobson
in St. Louis



**WARNER LICENSED
SOME 300 BATMAN
ITEMS. BUT NEARLY 25%
OF BATGOODS ARE UNLICENSED—
SUCH AS THE BLACK T-SHIRT
AND BATMAN BUTTONS ABOVE**

Batrepreneurs. Bootleggers are feverishly doing their best to cash in as quick as they can on the movie *Batman*, which generated \$40 million at the box office in its first weekend. Up and down Manhattan's Orchard Street, all over Soulard Farmer's Market in St. Louis, and along Los Angeles' Venice Beach, Batman T-shirts are a bargain. Asks a St. Louis vendor:

"Why go to a department store and pay \$10 or \$15 for this shirt when you can buy it right here for \$5?"

Why indeed. Nor are the bootleggers' bargains limited to T-shirts. Buttons, caps, and a slew of other Batstuff, much of it unauthorized, is hitting the market. "People are

developing cottage industries in their basements," says Murray Althuler, executive director of the Licensing Industry Merchandisers' Assn. "Some small-time entrepreneur sees Batman's on top,

a rope. To build enthusiasm, Warner got its licensing act into gear as far back as last fall. But recently, as LCA saw bootleggers get going, it went into overdrive. "Bootlegging spreads when there's a shortage of goods," explains one licensee, who did not want to be identified. "That's why LCA awarded more licenses." Althuler predicts sales will reach \$250 million before the Christmas season begins. To date, merchandise from the Star Wars trilogy has reached \$2.6 billion in sales.

T-shirt jobber Elberts knows that "there's tons of bootlegging going on with Batman because of the high volume of calls





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EDITED BY HARRIS COLLINGWOOD

DID THE BELZBERGS SEE GREEN AND REJECT IT?

► The Belzbergs of Vancouver often protest that they're not a family of greenmailers. And a July 3 Securities & Exchange Commission filing appears to bolster their case. In that document, the Belzbergs' First City Financial implies that floor-covering giant Armstrong World Industries tried to offer it a deal to go away.

First City disclosed that Armstrong offered to buy back First City's 10% stake in the company as part of a defensive employee stock ownership plan it was rushing into place. But the Belzbergs refused, saying they want to buy and run the company. Armstrong denies it offered them a premium price.

Arbitrageurs clearly think Armstrong is in play. Its shares closed at 47½ on July 5, up 10%. Armstrong Chairman William Adams vows a fight to stay independent.

CONSGOLD FINDS A MATE—BRITISH, TOO

► After a brief two-week courtship, Hanson won the hand of another British company, Consolidated Gold Fields, for \$5.5 billion in cash, warrants, and a special ConsGold dividend (page 144). The agreement comes after ConsGold beat back a hostile offer from South Africa's Minorco. Hanson is expected to sell big chunks of ConsGold, including its interest in South African gold mining operations and its 49% stake in Newmont Mining. ConsGold Chairman Rudolph Agnew will probably be eased out, say some insiders.

BLEAK DAYS AT WANG LABS

► Troubles mount at Wang Laboratories: The beleaguered minicomputer company says it will report "substantial" losses for the year

ended June 30, caused partly by restructuring charges. Barry Willman at Sanford C. Bernstein expects aftertax operating losses to be about \$115 million for the year, on sales of about \$3 billion. That's before severance payments for more than 3,000 people and other charges.

Wang's new products are not selling well, and fees from maintaining installed systems—one-third of Wang's revenues—are shrinking. To relieve its negative cash flow, Wang is trying to renegotiate \$300 million in short-term credit lines with its banks. Separately, An Wang, the company's founder and chief executive, has been diagnosed with esophageal cancer and faces surgery July 14.

THINGS ARE SMELLING ROSIER AT UNILEVER

► Ah, the sweet smell of success. Unilever's deal with financier Meshulam Riklis to buy his Fabergé cosmetics unit went kaput, but the Anglo-Dutch consumer goods giant appears to have landed another big U.S. cosmetics company.

Unilever plans to pay \$306 million for Minnetonka's Calvin Klein Cosmetics unit, maker of Obsession and Eternity perfumes, and push its brands overseas. The July 3 deal comes on the heels of Unilever's \$120 million pur-

STILL DREAM OF BEING THE FIFTH BEATLE?

Back in 1962, when rock 'n' roll and the people who made it were young, the Beatles played 12 hours a day in a seedy Hamburg nightclub, subsisting on corn flakes and diet pills while they waited for their big break.

These days, rock 'n' roll is big business, and the kids who once dreamed of being the fifth Beatle are now stockbrokers and software engineers. But they still have a guitar up in the attic, and San Francisco nightclub owner Gilbert Klein thinks a few of them will happily part with \$3,500 to attend a rock 'n' roll fantasy camp in August. The campers will spend a week in San Francisco, rehearsing and recording at big-name studios and learning tricks of the trade from the likes of Starship guitarist Craig Chaquico. They'll end the week by playing a concert at the famous Fillmore auditorium. Actually, though, the rock experience won't be quite complete: Groupies are not included in the package.



chase of the European perfume operations of Schering-Plough. Although Fabergé is a far bigger prize, Unilever has some consolation in its latest deal: It apparently beat out Riklis in the bidding for Calvin Klein.

A LIFELINE FROM BIOSCIENCE TO MARION

► U.S. Bioscience, a startup with several anticancer drugs in development, could help cure what ails Marion Laboratories. Marion has agreed to pay \$15 million for 2.5 million newly issued shares of Bioscience, amounting to nearly

20% of its stock. The deal also gives Marion an option to buy up to 34% more stock at \$6 a share or better.

Marion has next to nothing in its drug-development pipeline. Bioscience could help with an ovarian-cancer drug that may hit the market early next year. Another Bioscience drug, which may be three years off, could put more punch in chemotherapy and radiation treatment by safely permitting higher doses.

STERN ACTION BY KINDER-CARE

► Kinder-Care is moving fast to expel its problem children. Only weeks after unveiling a \$215 million restructuring plan involving the total spin off of its Kinder-Care Learning Centers subsidiary, the Montgomery (Ala.) conglomerate announced on July 3 that it's exiting the energy and real estate syndication businesses and unloading an investment portfolio once valued at \$83 million.

Kinder-Care will write off some \$35 million from its real estate and energy operations. The day-care subsidiary expects to lose \$18 million by liquidating its portfolio of preferred stocks and bonds.



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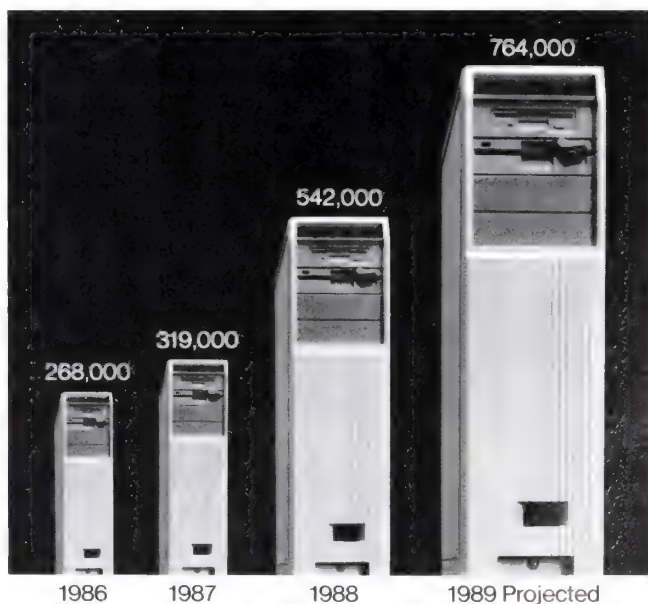
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MILES AHEAD

WHY BUDGET-BY-CRISIS MAY BE FOR THE BEST

Anyone who thought the April budget accord between the White House and Capitol Hill meant next year's budget would be worked out in harmony is in for a rude awakening. In mid-July, Washington will plunge into a series of budget crises, marked by warnings of catastrophe and threats of a government shutdown.

But in an odd way, the return of budgeting-by-crisis may be a better for deficit reduction than the bipartisan love fest that produced the original budget deal. Although the crises may worry financial markets, a speedy agreement to implement another mostly phony program would be an admission of failure, while the struggle that lasts until October could be a sign of progress. Welcome to Budgetland, where spending increases reduce the deficit, tax cuts raise money, and nothing is quite what it seems. Congressional committees are supposed to compete for action on details of the 1990 budget by July 5, but none have acted yet. They are waiting for the House Ways & Means Committee, which is about to begin looking for about \$5.3 billion in new revenues to meet the budget target.

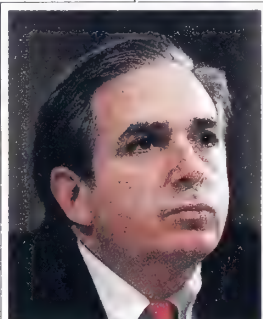
Committee Chairman Dan Rostenkowski (D-Ill.) will probably stitch together a number of small revenue raisers. The package could include restrictions on employee stock ownership plans and corporate bonds that defer interest until maturity. The panel is also likely to extend federal excise taxes on telephones and airplane tickets.

CARNY GAME. But congressional leaders, including Rosty, could still like to take a serious whack at a multiyear budget this year. That, they argue, will mean \$20 billion to \$30 billion in new taxes and a like amount in new spending reductions for fiscal 1991.

Rosty won't even try to deal with such tax hikes now. He made overtures to Bush in June, playing a variation of the old carny game called "wallet on a string." The bait was operation with Bush's campaign promise to slash the top tax on capital gains. But when Bush hesitated, Rosty whisked

it away, claiming he lacked the support of fellow Democrats.

Bush's refusal to play along derailed both the capital-gains plan and chances for a quick deal on the '91 budget. But nothing ever really dies in Budgetland. Both may resurface in the fall. House and Senate Democrats are prepared to give Bush all the time he needs to back out of his "no new taxes" campaign pledge. Once he does, both capital gains and talk of a big budget agreement will reappear.



OMB DIRECTOR DARMAN

Meanwhile, the budget process is about to enter the house of mirrors, where another crisis may lurk. On paper, the April agreement trims the '90 deficit to just below \$110 billion, as required by Gramm-Rudman. Around the middle of the month, the Administration is supposed to tell the Hill whether it will actually reach the target, given updated economic assumptions. Instead, Richard G. Darman, director of the Office of Management & Budget, is likely to send up a set of forecasts that leaves Congress not knowing whether the budget is in compliance. This deliberate sowing of confusion gives Darman more time to work on what he calls his "big fiscal fix."

Then there's the debt-ceiling roller coaster. Before lawmakers take off for their August recess, they must approve an increase in the \$2.8 trillion debt limit or risk a government shutdown. Chances are that just as the pros in the financial markets are about to get really upset, Congress will vote at the last minute to keep the government going until late September, when the fiscal year ends. The threat of another shutdown on Oct. 1 will keep the pressure on both lawmakers and the White House to make real progress.

All of this may look like an unnecessary excursion. However, getting Congress and the Bush Administration to agree to tax hikes and spending cuts that neither of them really wants can not be done in a straightforward fashion. For in the fantasy world of Budgetland, progress comes only after a long and twisted journey.

By Howard Gleckman

CAPITAL WRAPUP

THRIFTS

Even as the House and the Senate sit down to work out their differences over the savings and loan bill, two Administration agencies are fighting over the logistics of the bailout. At issue is the management of the Resolution Trust Corp., a new agency charged with selling off up to \$500 billion worth of foreclosed real estate owned by insolvent thrifts. The Federal Deposit Insurance Corp., which will be doing most of RTC's heavy lifting, wants a seat on its board. But the Treasury Dept. fears that an FDIC director would be in the position of overseeing his own agency. The Treasury is

now looking for prominent workout specialists to serve with the RTC, either as chief executive or as directors. One name under consideration: Preston Martin, former vice-chairman of the Federal Reserve Board.

PEOPLE

Air Force General Robert T. Herres is emerging as a leading candidate to succeed retiring Admiral William J. Crowe Jr. as chairman of the Joint Chiefs of Staff. Herres is currently vice-chairman... White House aide Richard Breeden is the latest in a string of candidates rumored to be in line for the chairmanship of the Securities & Exchange Commission.

FLAG WAVING

Most Democrats don't much like President Bush's proposed constitutional amendment allowing states to prohibit desecration of the flag. But key Democratic constituencies, including veterans' groups, Southerners, and blue-collar conservatives, passionately want Congress to reverse the recent Supreme Court ruling on flag-burning. As a result, Democratic leaders are reluctant to take a stand on the highly charged issue. House Speaker Thomas S. Foley (D-Wash.) is quietly telling his colleagues that their best course is to drop public opposition and let the states have a crack at the amendment.

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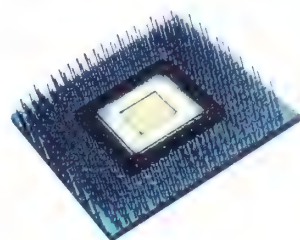
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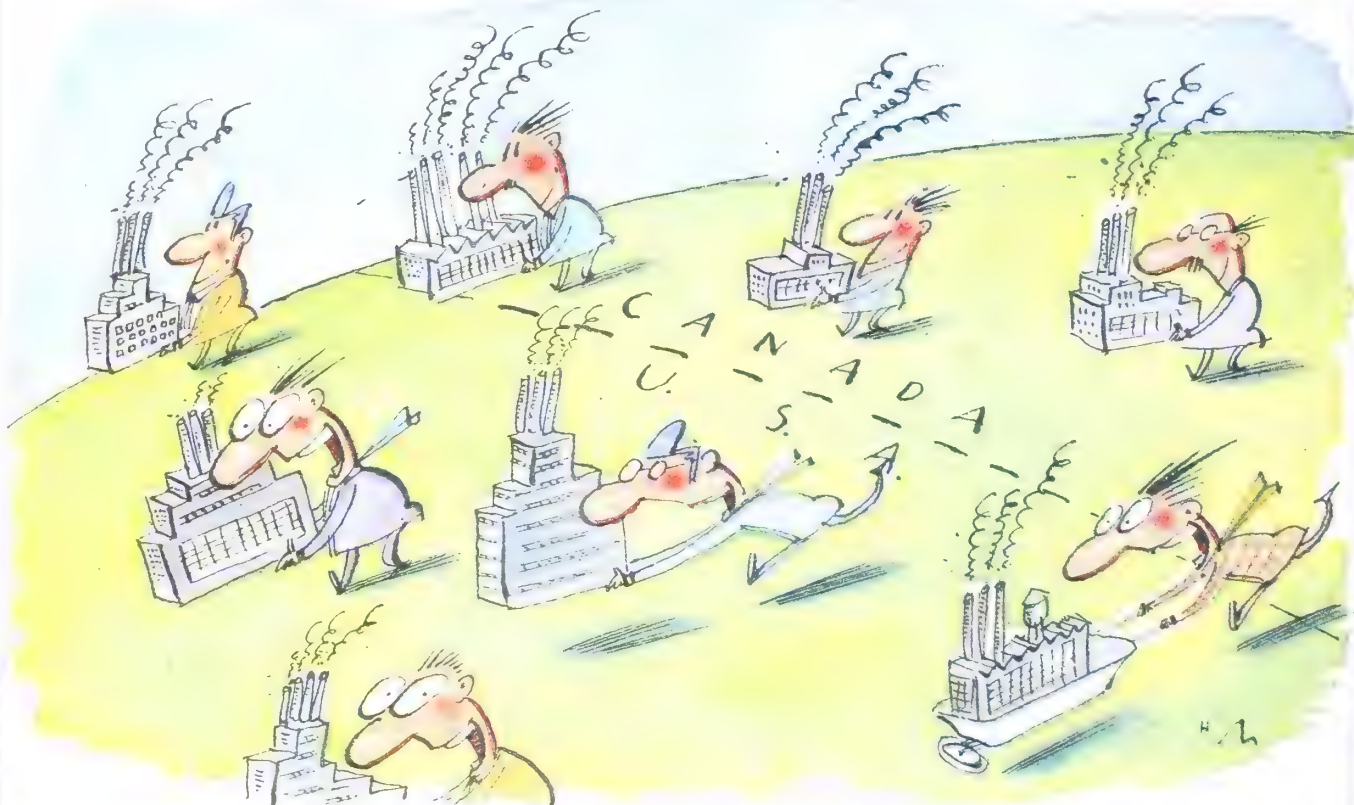


In 1988 Motorola was a winner of the Malcolm Baldrige National Quality Award.

Building On Beliefs



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THE TRADE PACT IS TURNING INTO A ONE-WAY STREET—SO FAR

If business continues heading south, Canada's economy could be hard hit

Tibor G. Soltesz of Vancouver, B. C., likes the U. S.-Canadian Free Trade Agreement. Tired of bureaucratic delays in obtaining promised provincial government funding, Soltesz plans to build a new dental-equipment plant in Pullman, Wash. Besides getting low-interest loans from the state, his company, Executive Dental Supply Ltd., will enjoy cheaper labor and material costs and a lower tax bill. "I may end up moving everything to Pullman and export back to Canada," he says.

Six months after the Free Trade Agreement, the evidence is mounting that Canada's economy may be headed for tougher, not better, times. Like Soltesz, other Canadian executives are rushing across the border to set up manufacturing bases in what they see as a more hospitable climate. Analysts expect a double-digit percentage gain in Canadian investment in America this year, to

more than \$41 billion. The unexpected shift to U. S. production by potentially large numbers of companies comes as Canada's exports to America are flattening out. With U. S. auto sales slow, Canada is particularly hard hit. Autos and auto parts are by far its largest export.

SALUTARY SQUEEZE? All this means trouble for the country's traditionally big trade surplus with the U. S. While American exports to Canada have risen, the rate of increase of Canadian exports has slowed. In the first quarter, Canada's surplus with the U. S. sagged to \$2.8 billion, reflecting a 27% reduction over the same period two years ago. And the slowdown in Canada's auto exports is sure to deepen. Ford Motor Co. of Canada, for example, extended the summer shutdown of an Ontario plant from three to eight weeks because larger models made there are selling slowly in the U. S.

Some economists think the squeeze on Canada's surplus is temporary—and is actually good. Burns Fry Ltd. chief economist Sherry Atkinson Cooper argues that a significant portion of the import surge is due to Canadian companies buying sophisticated machinery and equipment needed to upgrade factories and make them more competitive.

But others see a convergence of trends that could deeply rattle the Canadian economy and re-ignite political controversy over free trade. Although no one is predicting that Canada will slip into a trade deficit, further sharp reductions in the country's surplus would affect Ottawa's ability to service its debts and lead to a decline in living standards. As Canadian companies shift production, workers could be displaced.

Such a series of events could force Canadians to make painful decisions about their fiscal policy and labor

osts—problems that existed long before the trade pact took effect on Jan. 1. The real danger here is that the Free Trade Agreement is going to be blamed for more structural problems in the Canadian economy,” says Peter Morici, a Canadian business specialist at the University of Maine.

BETTER INFORMED. But for the moment, the rush is on. Trade officials in Washington, Minnesota, New York, and the New England states are reporting a surge in expansion commitments from Canadian businesses looking to invest in and trade with states to the south. “The Canadian companies have been more aggressive about free trade simply because they were better informed,” says Barbara Mattson, a Canada specialist at the Minnesota Trade Office.

The prospect of selling into an economy 10 times larger than the home market is the most obvious reason for the Canadian head start. But more important, a major shift in perception is taking place on both sides of the border. After all, the openness of U.S.-Canada trade has long been the envy of the world. Nearly three-quarters of the \$180 billion yearly two-way trade already moved duty free. But the hoopla surrounding free trade has awakened many more companies to the possibility of cracking the market next door.

Buffalo civic leaders expect their city to be a major beneficiary of such thinking. Located less than two hours by expressway from Toronto, Buffalo already has seen a surge in Canadian investment. As Ontario's taxes and costs have escalated, Canadian companies have piled into New York. Edward R. Steger, chief executive officer of Stetron International Inc., a Toronto-based electronic-components maker, has been gradually expanding his Buffalo presence to serve Canadian customers also moving their production. Says Steger: “I spent \$1 million for a building in Buffalo that would have cost \$10 million or more in Toronto.”

ANKEE, GO NORTH. Although the Canadians have been faster, the American export drive could be much broader. Consider what happened in Niagara Falls, N.Y., in June. Planners at the U.S. Small Business Administration had hoped to draw a few hundred people to a seminar on free trade. To their amazement, more than 1,800 people jammed to the Niagara Falls convention and visitor center to hear U.S. Trade Representative Carla A. Hills talk about exporting to Canada. Some 22 states were presented. If only a fraction of the American companies attending such seminars are successful, the impact could be enormous.

One thing is for sure. Free trade already is spawning much deeper econom-

ic ties along north-south corridors. Washington's ties with Vancouver are expanding, as are Minnesota's with Canada's prairie states, New York's with Ontario and Quebec, and New England's with the maritime provinces.

Rather than doing east-west business across tremendous distances, Canadian companies are looking south. “If you're in Winnipeg or Regina, it makes sense to

look to Minot and Fargo [N.D.],” says Peter Belanger, a Canadian trade officer in Minneapolis. That could rub the country's nationalist sentiments the wrong way. Canada's integration into a continental-scale economy is accelerating. The economic and political shock waves may do the same.

By Chuck Hawkins in Toronto and William J. Holstein in New York

SOVIET UNION

THE SUPREME SOVIET FLEXES ITS NYET POWER

As checks and balances shake up the bureaucracy, trade deals languish

The scene was the Kremlin, but for all the pushing and shoving, it might as well have been Capitol Hill. Soviet trade maven Vladimir Kamentsev, up for reappointment as chairman of the influential state commission for foreign economic relations, was receiving a sharp grilling from members of the newly elected Supreme Soviet. He was accused of being too eager to exploit natural resources for foreign currency and of tolerating nepotism on the commission. Then, in a July 4 vote, Kamentsev, one of the architects of the Soviets' trade consortium with six blue-chip U.S. companies, was rejected.

The housecleaning won't end there. During its session, lasting until Aug. 4, the Supreme Soviet and its 22 committees and commissions are flexing their fledgling muscles. The 542 legislators, just picked by the new Congress of People's Deputies, are for the first time in seven decades free to reject party-backed nominees. It's a key step in President Mikhail S. Gorbachev's plan to reduce the government's dominant role in the economy. A key goal: slash 15 million bureaucrats from bloated payrolls over the next 10 years.

Already, the Supreme Soviet has rejected a half-dozen would-be ministers

despite recommendations from Prime Minister Nikolai I. Ryzhkov and the Communist Party Central Committee. The biggest loser so far: Gennady Bogomyakov, the government's choice to head the new Oil & Gas Ministry. Supreme Soviet members accused him of housing thousands of workers in slums and of squandering petroleum resources while he was the party boss of Tyumen, the major staging area for the West Siberian oil fields.

NEW CAST. This new bout of Soviet democracy is bringing mixed blessings for the hundreds of foreign companies that have flocked to Moscow to take advantage of Gorbachev's reforms. The foreigners, who long have complained about the calcified bureaucratic system, soon will have far fewer ministries to contend with: Their number likely will be slashed from 52 to 32. But the executives may be forced to undergo some of the same legislative scrutiny as government appointees now get.

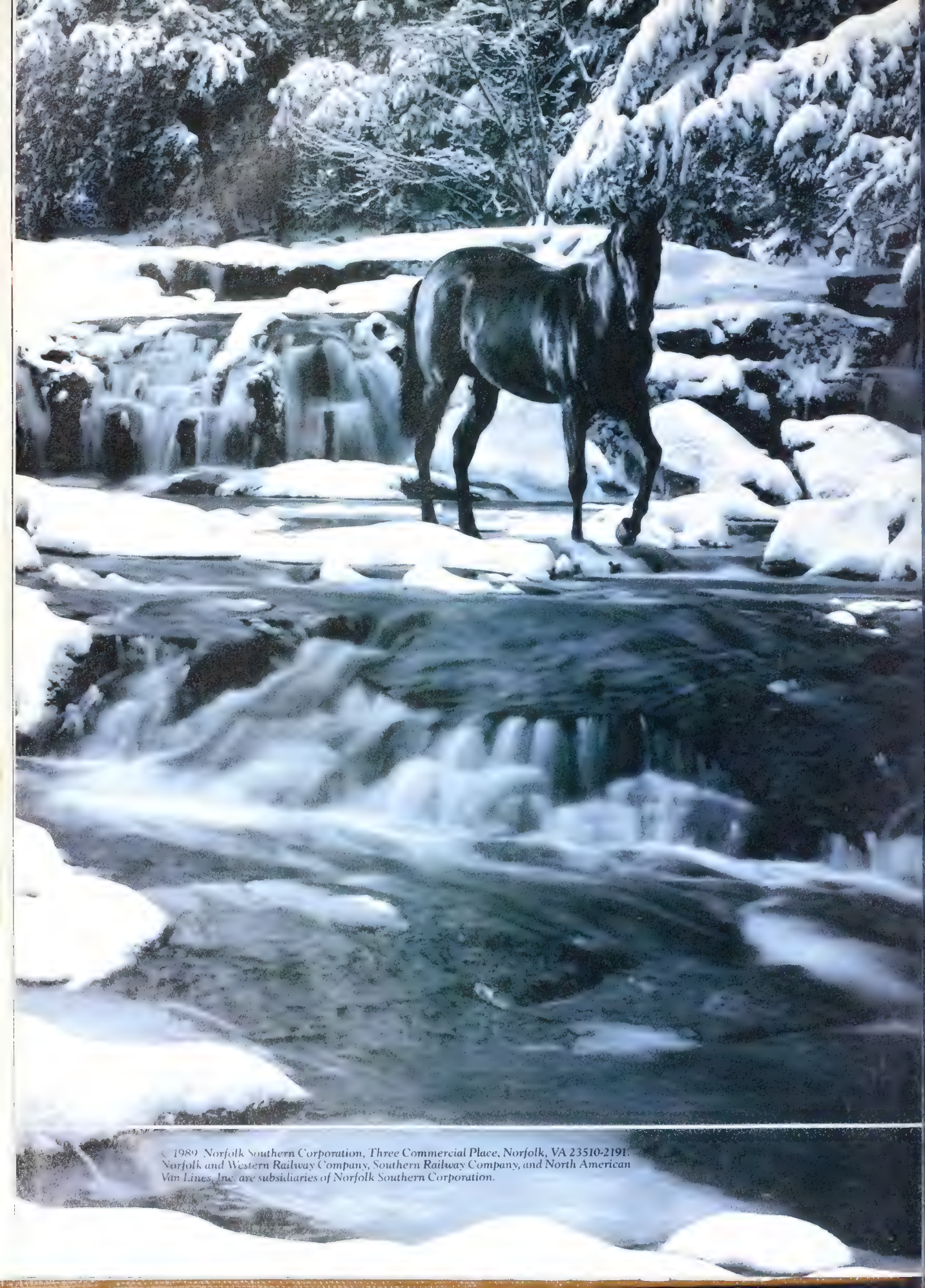
Already, populist leader Boris N. Yeltsin, who heads the Supreme Soviet's committee on construction and architecture, says he wants to cut the government's \$170 billion-plus budget deficit by trimming large capital investments—including ones proposed by foreigners if



‘Any foreign company that plans a big project involving a lot of construction will have to come before our committee.’

BORIS N. YELTSIN

Head of the Supreme Soviet's committee for construction and architecture



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Clearly, management can negotiate changing terrain and still stay a step ahead.

they involve huge Soviet spending for infrastructure. Says Yeltsin: "Any foreign company that plans a big project involving a lot of construction will have to come before our committee."

The new activism has some foreigners worried. Before Gorbachev launched his reforms, "there was no challenge" to a Soviet bureaucrat's decision, says Maxwell Asgari, vice-president of Combustion Engineering Inc. But already, Combustion and other foreign firms are seeing progress stall on oil, natural gas, and chemical projects worth as much as \$38 billion while the government sorts itself out. Says Richard N. Dean, a Mos-

cow-based lawyer for the New York law firm of Coudert Brothers: "The difficulty of doing business here will increase." For starters, the makeup of the new government may not be known for at least a month.

SHIFTING BASE. It may take a lot longer to see the reinvigorated legislature produce concrete economic results. Economist Leonid I. Abalkin, head of a commission on reform, says any noticeable improvement won't be apparent for another seven years. Others worry that the new Supreme Soviet will spend more time debating than actually reforming. It also is not known if cashiered bureau-

crats will actually be forced out of decision-making roles. For now, they will remain in their posts because the Soviets are drafting the five-year plan to start in 1991. Moscow observers worry that the old-line bureaucrats may tailor the plan so their futures are assured.

Nevertheless, Gorbachev is clearly consolidating his power by moving his base of support away from the party to the new legislature. If he can make the Soviet Union more of a nation of laws and less of one run by diktat, he will improve the odds of *perestroika* avoiding the bloody fate of reform in China.

By Peter Galuszka in Moscow

FRANCE

A NEW CEO IS TAKING BULL BY THE HORNS

But Lorentz faces sagging profits and stiffer foreign competition

Every Sunday morning, before most Parisians have dunked the first croissant in their cafe au lait, Francis Lorentz rolls out of bed to go rock climbing. Lorentz finds hanging off a cliff by the tips of his fingers and toes "relaxing," he says. "It absorbs you totally, both physically and mentally." He also thinks it's good training for his new job. After seven years as the second-in-command, Lorentz is now chief executive at Groupe Bull, France's state-controlled computer company.

Lorentz, 47, is taking charge just as Bull is losing its perilous fingerhold on profitability. Indeed, he says Bull will report "significant" losses for the first half of 1989, the first red ink it has spilled since losing \$440 million from 1981 to 1984. Lorentz, who predicts a profit for the full year, blames the shortfall mainly on technical glitches at a circuit board plant in France.

But Bull, like other European computer makers, faces a major problem: stiff competition from the likes of IBM, Digital Equipment, and Hewlett-Packard. The U.S. companies are growing faster than Bull in Europe, while chipping away at it in the U.S., where Bull bought into Honeywell Inc.'s computer business in 1987. Last year, Bull earned only \$51 million on sales of \$5.3 billion.

Some analysts and insiders wonder if Lorentz will be able to breathe new fire into Bull. For years, he and Jacques Stern, who is stepping down as CEO,

worked so closely together that they shared secretaries. Meticulous and disciplined, Lorentz was financial officer of a water company before being lured to Bull by Stern in 1982. Stormy and impetuous, Stern is a tailor's son who made it big as an entrepreneur before taking Bull's helm.

Paving the way for the transition, Lo-



LORENTZ WANTS TO TURN BULL INTO "A TRUE MULTINATIONAL"

rentz and Stern last year brought in Roland D. Pampel, a respected former president of Apollo Computer Inc. He runs the faltering former Honeywell operations, now dubbed Bull HN Information Systems Inc. and based near Boston. Bull recently raised its stake in Bull HN from 42.5% to 69.4%, while Honeywell's interest dropped to 15.6% and Japan's NEC Corp.'s held at 15%. This gives the French company management

control of Bull HN. Lorentz says Pampel, who will continue to run Bull HN, will also function as his No. 2.

The challenge now is to turn Bull into "a true multinational," Lorentz says, while getting profit margins up to the 3% European norm. For starters, he expects combining factories to yield big savings in personnel. By next year, Bull's major products will be coming out of nearly identical revamped factories in Lawrence, Mass., and Angers, France.

'KNOW BULL.' Bull is already moving to a common product line. Pampel will push so-called open system computers, which have nonproprietary operating software, in the U.S.—something Bull has been doing in France since 1982. The Bull logo will be used worldwide. Pampel is spending \$20 million on ads with catchphrases like "Know Bull" and "UnflappaBull" to offset the less seemly connotations of the name in North America.

If Bull's open system fails to sell, the company could become technologically dependent on Japan. It is already buying its top-end mainframes from NEC and reselling them under the Bull label. But the French government insists that France have its own computer maker and invests \$150 million annually in Bull. With such backing, Lorentz can buy or form alliances with laggard competitors if a predicted shakeout of European computer makers materializes.

Lorentz isn't the type to shrink from the challenge. Before taking on mountains, he practiced *aikido*, a martial art that he says consists of "transferring the momentum of your opponent into movement that works to your advantage." If cost-cutting, internationalizing, and all the rest don't get Bull moving again, a few *aikido* moves just might do the trick.

By Thane Peterson in Paris, with Leslie Helm in Boston

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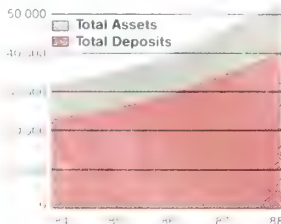
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BRITAIN'S HONG KONG HEADACHE HAS JUST BEGUN TO THROB

For years, it seemed the British were going to be able to walk away from the Crown Colony of Hong Kong with their heads held high. When Britain signed a treaty in 1984 turning the 5.7 million people back to Chinese sovereignty by 1997, only a handful of political activists protested.

But the Chinese army's massacre of unarmed demonstrators in Tiananmen Square on June 4 made Beijing's assurances that it would allow Hong Kong to remain a capitalist enclave after 1997 seem worthless. Today, the British have a diplomatic nightmare on their hands, as Foreign Secretary Sir Geoffrey Howe discovered on his July 2-4 visit. Howe was hounded by demonstrators chanting "shame" and demanding the right to emigrate to Britain. Yet the British say they cannot accommodate a flood of Hong Kong Chinese. Nor can they renegotiate the treaty with China. Barring a major change in Beijing's attitude, Whitehall suddenly faces years of being on the defensive over the Hong Kong issue, pilloried as racist by some, ineffective by others.

LABOR SHORTAGE? The crisis in confidence is already hurting Hong Kong's economy. Analysts have cut their estimates of economic growth in 1989 to less than 5%, from 6.5%, and to less than 4% for 1990. Major industries, such as trade with China, manufacturing, tourism, and real estate, are all in a downturn. Executives also fear that increased flight will rob Hong Kong of so many English-speaking employees that there will not be enough left to run the colony's international economy.

Desperate to boost flagging local confidence, prominent British-run Hong Kong businesses, including Hongkong & Shanghai Banking Corp., Hutchison Whampoa Ltd., and Jardine Matheson & Co., are lobbying for Britain to grant the 3.25 million Hong Kong Chinese with British passports the right to emigrate. They argue that such a change in immigration law would mainly serve as an insurance policy for Hong Kong residents and would encourage them to stay. Hong Kong's

leading British-run companies have even agreed to finance a public relations campaign to support this effort in Britain.

So far the various lobbying efforts have made few converts in London. "There is simply no way that a British government could grant to several million people the right to come and live in Britain," Howe said on July 3. "It would be an indefinite and open-ended commitment that would test our capacity in all kinds of areas." With few strong options, Britain is trying to bolster confidence with lesser offers. It promises to loosen the rules so as to allow a few more Hong Kong residents in and to mobilize international support if things go catastrophically wrong in Hong Kong. And Howe now says Britain will encourage more representative government in Hong Kong before 1997. He also promises to discuss with China provisions that, as they now stand, would permit martial law and a People's Liberation Army presence in Hong Kong after 1997. The Chinese, however, are clearly in no mood for concessions.



FOREIGN SECRETARY HOWE

Many leading Hong Kong executives and professionals believe these measures may be too little to head off the economic collapse or even civil unrest that some predict will occur unless confidence is restored. "We may seem alarmist, but we believe that Hong Kong will go into a steep decline if nothing is done," wrote Robert Tang, chairman of the Hong Kong bar association, in an open letter to Prime Minister Margaret Thatcher.

So far, China's headline leaders have done little to help the British out by reassuring the people of Hong Kong about their fate after 1997. Indeed, Beijing is showing that it puts tight political control ahead of economic prosperity in China and probably Hong Kong as well. Unless these priorities change, Hong Kong's lame-duck British administrators are in for a rough exit.

By Dori Jones Yang in Hong Kong, with Mark Maremont in London

GLOBAL WRAPUP

JAPAN

The odds are strong that on July 23, Japanese voters will for the first time deny the ruling Liberal Democratic Party a majority in the Upper House. The party has already suffered its worst setback since 1965 in the July 2 balloting for the Tokyo Metropolitan Assembly, where the LDP's plurality fell from 63 to 43.

These results in the first major election since Sosuke Uno became Prime Minister in early June are widely taken as a repudiation of the LDP's tax policies and corruption as well as Uno's geisha scandal. Although calls are mounting for Uno to quit, he's likely to

hang on through the G-7 Summit and Upper House elections. But political analysts say that the Tokyo results portend a crushing loss of 35 LDP seats in the Upper House. That would leave the party 19 short of a majority, making it difficult to pass laws and paving the way for a quick exit by Uno.

EUROPE

In a key test of 1992, the European Community is telling its members to open up their telecommunications monopolies. The EC would begin by allowing private companies to provide electronic mail and data transmission services, areas expected to boom. For now, the EC is keeping its hands off

basic telephone services, which represent 90% of current telecom business. The new rules would not apply until next Apr. 1 at the earliest. Leading the push for liberalization is Leon Brittan, the EC commissioner for competition. Sir Leon rests his case on EC treaty language outlawing public monopolies.

Strong opposition is building—principally in France, Italy, Spain, and Belgium—because both national pride and big money are at stake. The EC forecasts \$750 billion to \$1 trillion in new telecommunications business over the next 20 years. The opposing countries plan to take their case to the European Court of Justice on grounds that their sovereignty is being violated.

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So you can use it as a stand-alone PC, putting its power to work on the most demanding CAD/CAE, financial analysis, database management and personal productivity applications.

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386/33 as the driving force for a network or multiuser system.

At the heart of the system is the Intel 386™ microprocessor.

Running at a blazing 33 MHz, it works in

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A total of eight expansion slots let you customize the system to your needs by expanding memory and choosing from thousands of industry-standard expansion boards.

a series of technological advancements. Like a 33-MHz cache memory controller with 64K of high-speed static RAM. Interleaved memory architecture. And the exclusive COMPAQ Flexible Advanced Systems Architecture.

This high-performance combination delivers a 35% performance improvement in CPU-intensive applications over 25-MHz 386 cache-based PC's.

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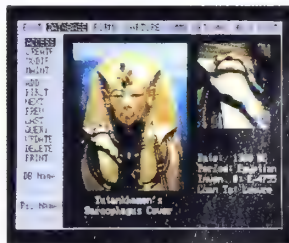
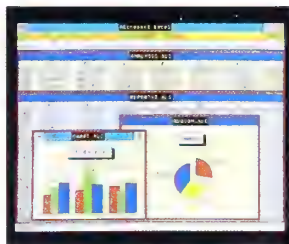
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CARL ICAHN HAS LOTS OF CASH. WILL HE SPEND IT ON TWA?

Or does the veteran of the takeover wars have something else in mind?

Some 35 miles north of Wall Street, Carl C. Icahn spends his working days in offices worthy of one of the great financiers and raiders. Dark wood paneling covers the walls of his headquarters in Mt. Kisco, N. Y. Gilded chandeliers dangle from high ceilings. You'll also find oil paintings depicting the struggles and heroes of another age: dueling cavalymen, ferocious sea battles, Napoleon with his marshals.

Lounging at the end of a long conference table, Icahn sounds much like a wise veteran of the wars—the takeover wars, that is. "Great opportunities," he says,

"come to him who has cash." Icahn is referring to the bulging coffers at Trans World Airlines Inc., where he is chairman and principal shareholder. The airline has just completed a \$300 million junk-bond offering that creatively uses spare parts and some of TWA's airport landing rights as collateral. The proceeds from the bond sale will increase TWA's hoard of cash and securities to \$1.3 billion.

Icahn also has an estimated \$1 billion more in cash, which one of his companies raised by unloading its Texaco stock. Thus Icahn has plenty of ammunition for one of the stock forays for which he is known.

The way he sees it, a shrewd stock investment could be just the thing for TWA.

Using TWA's cash for anything but upgrading the airline, however, could cost dearly in the long run. TWA's operations are becoming tattered at the edges—a development that Icahn's own managers want to correct. Icahn says he is waiting for the right opportunity to buy planes and hubs for TWA. But if he doesn't move soon, TWA runs the risk of becoming a second-rate airline that will steadily lose market share and profits to bigger players.

'A REAL MESS.' Icahn has already revived TWA since buying it in 1986. The carrier's operating loss was \$75 million that year when terrorism in Europe frightened off the international tourists that are TWA's lifeblood. "It was a real mess," he says. Icahn won big labor concessions and cut an additional \$300 million in nonlabor expenses. He bought Ozark Air Lines Inc., a big rival at TWA's St. Louis hub. Operating profits in 1987 and 1988 of \$240 million and \$259 million set records. Revenues last year were \$4.3 billion.

TWA remains a laggard in the industry though. While operating income for airlines rose a total of 33% last year, TWA's increase worked out to just 8%. And 1988 operating income would have been \$44 million lower if TWA had not stretched out its annual depreciation charges, an accounting change other carriers have adopted. TWA's profits will decline this year, Icahn says, partly because the machinists will recoup \$50 million in wages they gave up in 1986. Higher labor costs helped widen TWA's traditional first-quarter operating loss to \$31 million, up from \$8 million.

Blame TWA's slipping profits on its anemic growth in traffic, too. The total number of miles flown by TWA passenger through May of this year was up only 1% from a year earlier. By contrast, Delta, American, Piedmont, and USAir have been showing double-digit increases (table).

Icahn points out that some of his rivals are benefiting from Eastern Air Lines Inc.'s woes, but not all of his weak relative performance is attributable to the strike. TWA needs another hub to boost passenger growth in the U. S. and feed travelers into its international network. Icahn has considered building hubs at Columbus, Ohio



TWA'S THIN MARGIN FOR ERROR

GROWTH IS SLOW...

Percent change in passenger traffic		
Airline	1989*	1984-88**
USAIR	21.2%	20.5%
DELTA	16.2	17.6
PIEDMONT	12.2	19.6
NORTHWEST	12.2	19.3
AMERICAN	11.9	15.3
PAN AM	4.4	0.8
TWA	1.0	5.2
UNITED	-1.7	10.3
CONTINENTAL	-8.6	38.8
EASTERN	NA	-0.4

...AND DEBT IS HEAVY

Total debt as percent of capital	
Airline	1988
PIEDMONT	14.9%
DELTA	23.3
NORTHWEST	36.8
USAIR	40.7
AMERICAN	47.3
UNITED	67.9
CONTINENTAL	96.6
EASTERN	100.1
TWA	101.2
PAN AM	133.7

*Through 5/31 from a year earlier

**Annual rate NA = not available
DATA: STANDARD & POOR'S, AVIATION DAILY

CLEARED FOR TAKEOFF: ICAHN WILL HAVE TO MOVE FAST—OR RISK LOSING MARKET SHARE

and Indianapolis. So far, nothing has come of those plans, and Icahn has backed away from buying Eastern, which could have provided hubs in Miami or Atlanta.

TWA is also facing stiffer competition on its valuable transatlantic routes, where for years its main rival was a struggling Pan American Airways Inc. Now, American Airlines and Delta Air Lines are offering more Europe-bound service, and their growth in the market has been rapid. "We feel very good about competing with Pan Am and TWA," says Richard A. Lempert, American's senior vice-president for international operations.

TWA's slow growth comes at a moment when the airline is highly leveraged. Total debt at the carrier, which Icahn took private last year, is \$2.5 billion: Annual cash interest expense, according to analysts, will be about \$375 million. Cash flow from airline operations of more than \$400 million should meet those charges. And just the interest and investment income from TWA's \$1.3 billion should be at least \$100 million. But the debt burden "is crushing earnings," says Philip Baggaley, an airline bond analyst for Standard & Poor's Corp. And analysts worry about what a recession will do to TWA's cash flow.

SPARE HUB. TWA has plenty of potential uses for its cash, such as building a hub and adding planes. Former executives estimate that TWA needs 50 to 100 narrow-body planes, such as the McDonnell-Douglas MD-80, to replace and expand its aging fleet, one of the industry's oldest.

So far, Icahn has placed no major order for MD-80s, although he has leased some. In fact, Joseph Corr, TWA's former president, stated in a deposition that he left TWA late last year when he became convinced that Icahn would not buy the planes Corr thought were needed. Icahn has placed an order worth up to \$3.6 billion for Airbus Industrie A-330 widebodies, but TWA won't start to receive them until 1994.

Icahn must also convince business travelers, who usually pay the highest fares, that TWA's service can compete with the best. TWA still ranks below the industry in such measures of performance as on-time arrivals and baggage handling (table).

Icahn says some of these low marks are beyond his control—TWA's St. Louis hub, for example, can be easily shut down by bad weather. But the statistics help give TWA a poor reputation, especially when combined with other details. Coach passengers on transatlantic flights have complained about endless waits for meals because of the scarcity of flight attendants. A former executive says that to save money, the company even went so far as to cut down on washing blankets, with malodorous results.

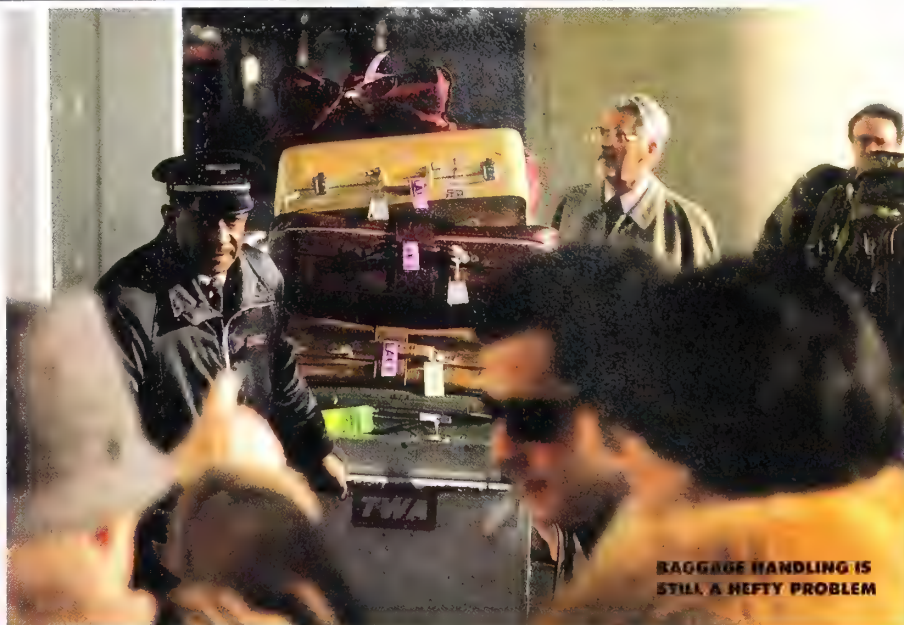
TWA is starting to address its service problems. Even though Icahn calls the alleged blanket problem "total nonsense," flight attendants say the blankets are get-

ting washed more often. More attendants are serving some transatlantic flights. And, more important, TWA's marketing executives acknowledge their difficulties. Late last year, a survey revealed that business passengers found TWA's service wanting. "The business traveler had pretty much deserted us," says Robert J. Mann, vice-president for marketing. According to Mann, business fliers account for fewer than 50% of TWA's passengers: A figure of 54% or so is considered desirable, and Mann would like to raise that number to 58%.

This year, TWA will spend about \$70 mil-

increase, TWA doesn't come close to the big leagues of capital spending. American, twice TWA's size, will devote about \$1.7 billion in 1989, up from \$350 million in 1988, to nonplane capital expenditures.

Is Icahn so intent on scoring in the stock market that he has become penny-wise and pound-foolish with TWA? To Icahn, the master of timing, it's the other chief executives who are being foolish by paying richly for new planes. If a recession comes, squeezing traffic and producing a surplus of planes, he figures he can move in and pick up slightly used planes cheaply. He might even buy a hub from a belea-



HOW TWA TRAILS IN CUSTOMER SERVICE

ON-TIME FLIGHT ARRIVALS

Percent of arrivals on time (April, 1989)

TWA	80.8%
INDUSTRY	83.4%

MISHANDLED BAGGAGE REPORTS

Per 1,000 passengers (April, 1989)

TWA	7.95
INDUSTRY	6.15

INVOLUNTARY DENIED BOARDINGS

Per 10,000 boardings (Jan.-Mar., 1989)

TWA	7.14
INDUSTRY	5.09

DATA: TRANSPORTATION DEPT.

lion to improve service by training more flight attendants, upgrading on-board service, and refurbishing ground facilities. The airline will also design first-class upgrades and special frequent-flier programs for travelers paying a full business fare. There's a lot at stake here: Icahn points out that adding just one business-fare passenger to every flight produces \$67 million in annual profits.

POUND FOOLISH? Aside from any plane purchases, TWA should spend about \$150 million this year on capital improvements—about what Sanford Rederer, vice-president of operations, thinks it needs. TWA will also spend some \$300 million in coming years to improve its terminal at New York's Kennedy Airport. But last year, TWA only spent \$81 million on capital improvements—and even with this year's

guaranteed carrier, provided the Transportation Dept. does not block an acquisition. Even if the bargains don't materialize, TWA's cash can help it weather any downturn. "We're in good shape," he says.

Icahn's strategy has history on its side. In the early 1970s, the airlines ordered too many planes just as a recession hit. But for Icahn to catch up, he would need a sizable reversal in airline fortunes to pick up the routes or airplanes he needs. In today's leaner industry, most executives expect to ride through a shakeout better than they did in the days of regulation. If Icahn's view of his rivals makes him a maverick, it's a role he's used to. But his waiting game runs the risk of leaving him even further behind his competitors.

By Todd Vogel in Mt. Kisco, N. Y., with bureau reports



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AFRAID OF 'COMMODITIES SHOCK'? WELL, RELAX

Prices are higher—but nowhere near the horrific '70s

Right now, inflation seems to be playing peek-a-boo with the economy. In early 1989, the effects of last year's drought pushed up producer prices at an annual rate of 13%. Then, moderate increases in March and April were followed by a big jump in May, as the Valdez oil spill lifted energy prices.

These swings are raising fears that we are about to see a reprise of the '70s, when price increases for oil, grain, and other commodities triggered double-digit

sumer prices, have a history of moving down as well as up. Since mid-December, the Commodity Research Bureau Futures Index has dropped by 8% in nominal terms. The slowing economy has relieved demand pressures, and supply problems have eased in some industries. For example, the price of aluminum has fallen by one-third since it peaked just a year ago.

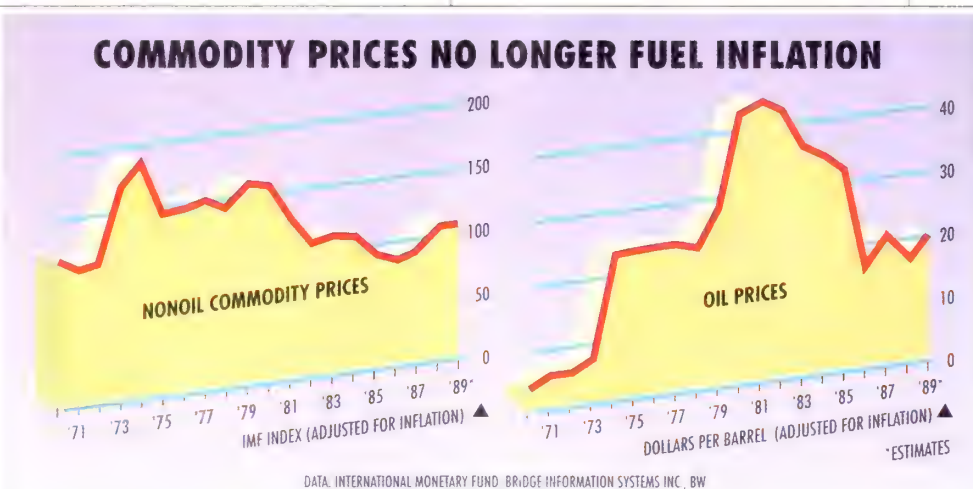
During most of the '80s, commodity prices have been an ally, not an enemy,

the next two years—a pace that just keeps up with expected inflation figures.

And even with the recent drought, grain prices should stay stable or even fall. Recent estimates by John Schnittker, a Washington-based agriculture consultant, show world grain production this year falling only slightly short of demand. "With two or three years of good weather," observes Schnittker, "agricultural commodity prices should get down to 1986 levels." He points out that 5% of good cropland in the U.S. is lying fallow, and it's available for planting if needed. Recently, the Agriculture Dept. ordered the dormant wheat-growing land into production for next year's harvest, which will help hold down prices.

LONG-TERM TRENDS. The same types of moderately optimistic forecasts are being made for other commodities, too. "There's volatility," says Allen Grommet, economist for the Coffee, Sugar & Cocoa Exchange, "but then [prices] come back to a trend line." Grommet says that coffee prices should be relatively stable over the long run. But he says that cocoa prices, which benefit from new areas of production, may decline in real terms.

This kind of price behavior marks a return to long-term trends. Historically, notes economist Robert S. Pindyck of Massachusetts Institute of Technology, the real price of most commodities has either stayed constant or declined in the long run. For example, the real price of oil remained level between 1950 and 1970, while the price of wheat fell by one-third.



inflation. The economy, now in its seventh year of expansion, is bumping up against labor and capacity constraints, so the underlying inflation rate is already rising. And the overall price level is responding quickly to commodity price increases. Indeed, market analysts have learned to monitor commodity price changes closely to gain some hints about the future behavior of inflation.

GOOD NEWS. But fears of a commodity-induced inflation spike are misplaced. Compared with the price increases of the '70s, the recent surge in commodity prices has been small. Indeed, prices of most commodities other than oil, after inflation, remain below their 1970 levels. Oil, too, is cheaper in real terms than it was 15 years ago. If these trends hold, commodity prices are not likely to skyrocket as they did in the '70s—and that's good news for inflation.

In fact, commodity prices, unlike con-

in the war against inflation. From 1979 to 1986, the real price of commodities fell by 50%. This includes both oil and nonoil commodities, such as grains and metals. One key reason for this drop was the deep recession of 1981-82, but even after a prolonged expansion, the real prices of most commodities remain well below their peaks (chart).

This doesn't surprise many commodities-watchers. "This lower price for oil is a benchmark for the next 10 or 20 years," says James L. Sweeney, an energy economist at Stanford University. Higher oil prices can't be sustained for extended periods, he notes, due to excess capacity in world oil markets and the ability to achieve substantial reductions in demand through conservation. Most forecasts reflect this assumption of long-run stability. For example, the latest report from DRI/McGraw-Hill foresees oil prices rising by only 9% in

"Many of these exhaustible resources turn out not to be so exhaustible," notes Pindyck. Improved technology cuts the cost of production, while the development of substitutes holds down prices. Pindyck points to copper, which is primarily used in telephone and electric power systems. With the rise of fiber optics and the slowdown in electric power expansion, the long-run trend of copper prices has been downward. Since 1970 the real price of copper has fallen by 40%, and even with a price spike last year, it never reached its earlier level.

The recent price behavior of dozens of commodities comes as welcome news to price watchers who remember the traumatic experiences of the early 1970s, during stagflation. Rapid world economic growth, major crop failures abroad, and two oil price shocks drove commodity prices sky high. By 1979, the commodity price level had more than dou-

A collection of various packaged breads and snacks. The items include: Country of Origin Honey'n Bran, Country of Origin Italian Bread, Country of Origin Butter-Split White Bread, Country of Origin Wheat Rolls, Country of Origin Light'n Natural, Country of Origin Oatmeal Recipe, Country of Origin Honey Bran, Country of Origin Wheat Berry, Country of Origin Sandwich Bread, Country of Origin Deli Rye, Stone Creek Crackers, Flour Pot Cookies, and Country of Origin Wheat Bread. The packaging features various logos, including the Country of Origin logo, and text describing the products.

A portrait of Daniel Shulgin, a man with light hair, smiling, wearing a dark suit, white shirt, and a red tie.

Daniel Shulgin
Vice President, Operations
Roush Products Company, Inc.

A portrait of VJ. "Vinnie" Nocco, a man with dark hair, smiling, wearing a dark suit, white shirt, and a red tie.

VJ. "Vinnie" Nocco
Chairman and Chief Executive
Roush Products Company, Inc.

In commercial baking, as in many businesses, precision control is the recipe for success. So when The Roush Products Company needed to prepare tons of premix for hundreds of bakeries 24 hours a day, they added an additional ingredient—Allen-Bradley, the industrial automation people of Rockwell. Here's the story from the people who made it happen.





Frank Hurtt
Manager
Cedar Rapids Branch
Allen-Bradley Company, Inc.
Rockwell International

Catherine E. Rotzler
Systems Engineer
Integrated Controls
& Computer Systems, Inc.

Noce: Baking is an art, not a science. But the complexities of commercial baking are enormous. We mill and blend thousands of tons of premix annually. Our problem was a big one — how to get cost effectiveness over massive volume, stay competitive in the market, and still turn out a wide variety of quality consistent products needed by our customers around the world.

Shulgin: It used to be done by a guy with a recipe card saying, "Let's see, did I remember to put this or that in, or not?"

Noce: We knew our future growth depended on technology that first, the common individual could understand; second, that wouldn't require a great deal of input on his part and finally, that could accommodate all the changes we have to make on a daily basis.

Hurtt: We came into the plant four or five times to discuss their automated batch recipe needs before we made our initial proposal. At one point Dan said to me, "We don't care if the technology comes from a science fiction movie, if

it's the newest and best on the market, that's what we want."

Shulgin: We needed to bring together control and information so we knew we wanted the Allen-Bradley Advisor System. And we wanted it now, right away. Start up time is usually two to three weeks. We tried to do it in a weekend.

Hurtt: The key word is "tried."

Shulgin: That's right, it didn't work. But it only took an extra couple of days because Allen-Bradley and its local distributor practically lived here the whole time, helping us get on line. And after we got rolling, ICCS, the systems integrator, came in to help with the programming. Now when we need a part or service, we just pick up the phone.

Rotzler: Initially we were brought in to solve one particular problem. That was 2½ years ago.

Hurtt: Since then, a real working relationship has grown up between Allen-Bradley, ICCS and the people here at Roush Products Company.

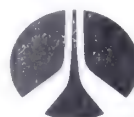
Shulgin: Since that first automated

batch processing system, we've added a second that's just about identical and we're looking at a third and fourth in the near future.

Noce: Well, you don't grow like we have if you can't take advantage of the right technology, and that means working with the right people. Everybody, and I mean everybody, who comes into this plant leaves saying, "My goodness, you fellows are ten to fifteen years ahead of most everybody else." I'm delighted with our relationship with Allen-Bradley and ICCS.

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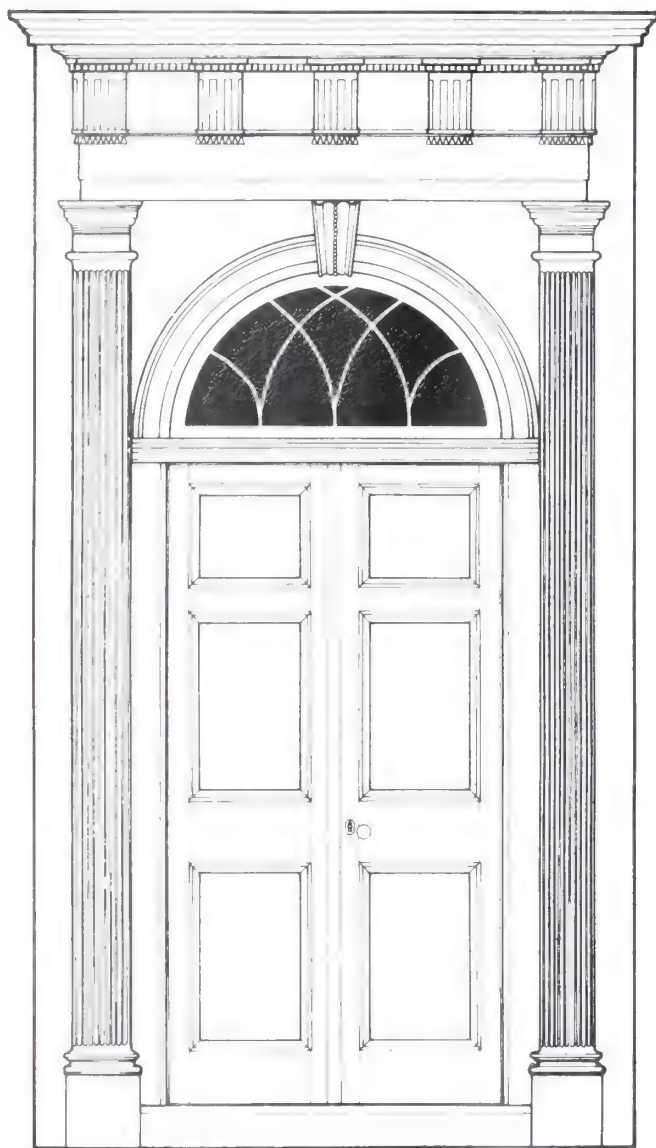


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Economics

bled from the beginning of the decade.

These increases quickly translated into big jumps in the consumer price index—the sort that hit people's wallets in a hurry. Rising commodity prices were accepted as the norm. It was business as usual for companies to boost prices in response and commonplace for workers to demand hefty wage increases. Few believed the price pressure would let up. Whether because natural resources were being exhausted or because producers were going to imitate OPEC and cut output, the conventional wisdom said that commodity prices would continue to spiral upward, pushing inflation ever higher.

But the pressure did let up. And one

**'Even if oil prices double,
the effect on the economy
still couldn't get you up
to double-digit inflation'**

day, says Barry P. Bosworth of the Brookings Institution, "we'll look back on the '70s as unusual." When the prices of commodities shot up in the 1970s, business and consumers economized and found substitutes. Bosworth observes that "the long-run supply price of basic commodities turned out to be extremely well-behaved."

STILL VOLATILE. To be sure, short-run volatility in prices hasn't disappeared. Political turmoil may temporarily disrupt oil supplies. Higher volume on the commodities exchanges has been accompanied by greater price movement, and surges in food prices pose great short-run inflationary dangers.

But experts believe the economy generally is better able to absorb commodity shocks than it was in the '70s. Potential supplies of oil and grains are far more diversified than two decades ago, while commodity users are far more adept at adjusting to price changes.

So commodity price shocks just aren't likely to pack the same punch they once did. "Even if oil prices double," says Robert J. Gordon of Northwestern University, "the effect on the economy still couldn't get you up to double-digit inflation." Indeed, for commodity prices to have a dramatic impact on inflation, Gordon asserts, "it would take a bigger calamity than you could even imagine." A bold statement, for sure. But these days only die-hard Cassandras can envision what it might take to reproduce the inflation of the '70s.

By Michael J. Mandel in New York



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CAPTAIN COMEBACK

TED TURNER IS BACK FROM THE BRINK AND THINKING BIG AGAIN

Ted Turner is on a roll. Pacing quickly around his expansive, trophy-lined office, the Atlanta-based cable-TV entrepreneur can't resist pontificating on every subject that pops into his head. China is distressing. The environment is being abused. Children are starving. Nuclear weapons—who needs them? And oh, yes, he also has plenty to say about Turner Broadcasting System Inc.: “We’re like the Allies after Normandy,” he says, referring to his company’s battles with the three major TV networks. “We have landed. We are there. The beachhead cannot be obliterated.” He pauses to catch his breath, then starts off again. As one Turner executive puts it: “Having a conversation with Ted is like talking to a radio.”

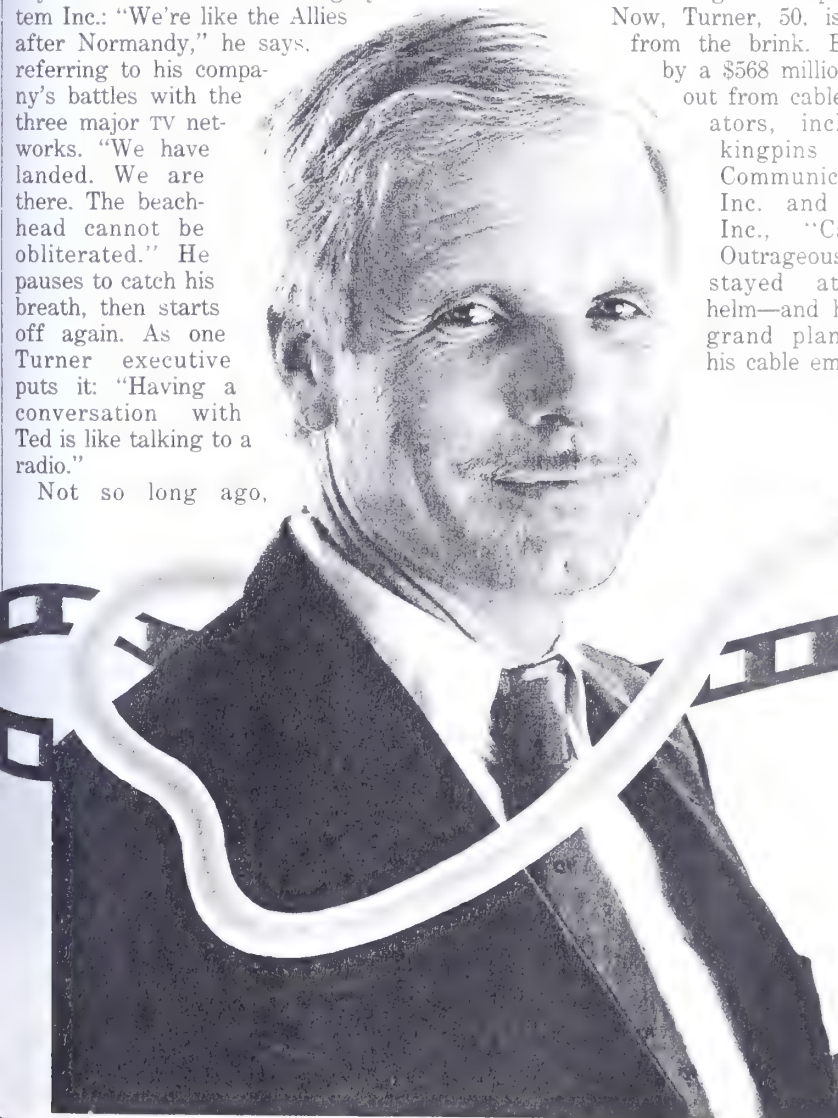
Not so long ago,

Turner’s radio was playing a dirge. Spurned in his hostile raid on CBS Inc., in 1986 the founder and chairman of Turner Broadcasting flew to Hollywood to pay a pricey—some said laughable—\$1.4 billion for MGM Entertainment Co.’s library of 3,300 vintage movies. Suddenly, the flamboyant cable pioneer found himself awash in debt and perilously close to losing his company.

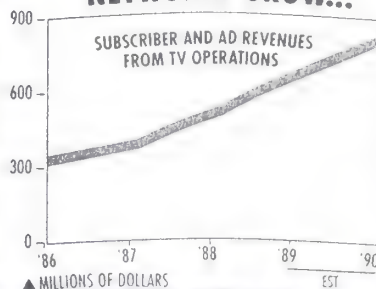
Now, Turner, 50, is back from the brink. Buoyed by a \$568 million bailout from cable operators, including kingpins Tele-Communications Inc. and Time Inc., “Captain Outrageous” has stayed at the helm—and he has grand plans for his cable empire.

Turner vows to build his new Turner Network Television (TNT), which already qualifies as the most successful launch in cable history, into the nation’s preeminent sports-and-entertainment channel. That’s right: bigger than the major broadcast networks. In the mid-1990s, he may even beam it or a similar channel internationally, he says. Meanwhile, he is aggressively expanding his Cable News Network (CNN) overseas in an effort to make it the world’s largest and most important source of electronic news. He is adding news bureaus, signing deals with foreign cable operators and broadcasters, and courting advertisers from London to Tokyo.

It’s not that all his problems have vanished. Turner’s empire, fast approaching \$1 billion in annual sales, is certain to encounter fiercer competition from other cable programmers and the major broadcast networks. And Turner Broadcasting, which next year hopes to show its first profit since 1985, probably won’t show one until 1991 at the earliest, analysts figure. But it’s finally



AS TURNER BROADCASTING'S NETWORKS GROW...



ing a handle on its \$5 million in annual interest costs and pre-ferred dividends: Operating cash flow, just \$9 million in 1986, is projected to reach \$255 million in 1988 and should top \$5 million this year. With his finances more under control, "The path of the South" is running again. Now, like the Allies, pour more and more men and matériel into the pocket," says Turner. "We are breaking out, and the networks are admitting it." Because Turner is so prone to self-congratulatory chatter, it's easy to understand why people often belittle his accomplishments. But he has a lot to brag about.

Like many business leaders today are content to shuffle assets and play for quick earnings hit, Turner has remained true to his entrepreneurial instincts and is actually building something of value. With SuperStation TBS, CNN, and TNT, Turner now runs three of the nation's six highest-rated basic-cable channels. Including his Headline News Channel, they accounted for 31% of all cable viewing in the first quarter of this year. That surely hasn't been lost to the cable industry, 31 of whose members came to Turner's rescue by bailing out two years ago. The nine-year-old CNN is his most important vehicle. Along with Headline



CNN REPORTING: BEIJING, THE KREMLIN, THE CHALLENGER DISASTER, CAPITOL HILL



tic projections. Only nine months old, TNT already reaches 29.2 million subscribers. Meanwhile, SuperStation TBS continues to rack up impressive gains in sales and operating profits. Once a tiny UHF channel in Atlanta, TBS is now the most-watched basic-cable channel in the country. Its programming roster includes sports, movies, and such reruns as *The Andy Griffith Show* and *Leave It to Beaver*.

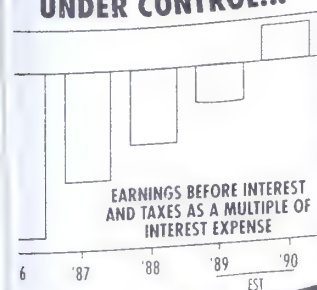
Heartened by the improvements, investors in the past year have more than tripled the value of Turner's class A common stock, which has zoomed to around 44 (charts). The runup in Turner's stock is partially a result of investors' current passion for cable programming.

Unlike Viacom Inc., which operates movie theaters as well as MTV and Nickelodeon, and Capital Cities/ABC Inc., which owns the ESPN cable-sports network, Turner Broadcasting is one of the few ways to invest in cable programming alone. Turner's personal 43% stake is currently worth \$1.37 billion. He owned 80% before he brought the cable operators on board, but he shouldn't complain: They have proved invaluable in

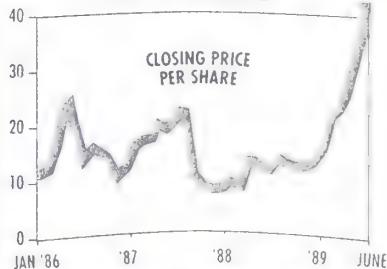
News, the ever-more-profitable CNN has become an indispensable property for cable operators. According to Turner research, more than 52 million American homes, or roughly 58%, are wired for cable, and 50.8 million of them receive CNN. Equally important, CNN is emerging as a global powerhouse in breaking news of world events. Nowhere was this more evident than in its impressive 24-hour coverage of the crisis in China—a milestone in Turner's effort to make CNN the world's top electronic source of news (page 106).

TNT, a venue for his library of MGM movies and some original programming, is outpacing even Turner's most optimis-

...IT'S GETTING DEBT UNDER CONTROL...



...AND ITS STOCK HAS ZOOMED



DATA: DEAR STEARNS & CO
BRIDGE INFORMATION SYSTEMS INC

spreading TNT around the nation. "He's really got it made," says Ajit Dalvi, senior vice-president of marketing and programming for Cox Cable Communications. "With the cable industry behind him, he just can't lose."

The picture probably isn't quite that rosy. To keep growing in an industry that is showing the first signs of maturity, Turner faces challenges that may be his toughest ever. For years, cable-system operators have been able to sign up new subscribers simply by expanding into previously unwired towns or neighborhoods. But now that cable is finally available to more than half of the country's viewers, operators must tackle a different task: They have to persuade potential subscribers—not to mention current subscribers—that cable offers them something special.

CROWDED FIELD. Turner has plenty of challengers who would like to help the operators—and themselves—by selling TV programming. Well-established services, such as USA Network and MTV Networks Inc., are trying to increase their market share by spending heavily on new programming as well as reruns. Turner also has to try to keep viewers from tuning into new cable services. Home Box Office Inc. and MTV are both planning to launch separate all-comedy channels. And the major broadcast networks, which have watched their combined share of the prime-time viewing audience plunge from 90% in 1979 to 67% this year, are trying to expand their reach through cable. ESPN recently outbid Turner with its \$400 million offer for the rights to 175 major-league baseball games a year. And NBC recently introduced a consumer and business news service, CNBC.

New technologies could also lure viewers away from basic cable channels, including Turner's. Many cable-franchise owners believe that viewers will like the chance to push a few buttons and pay a little extra to see special events through fast-growing pay-per-view services. And there's still talk about new competitors challenging cable by transmitting TV shows over satellites or on fiber-optic telephone lines.

Turner plans to spend lots of money on programming to

stay ahead of the pack. This year, he has hiked TNT's original-programming budget 25% to \$45 million. TNT has already produced a few original movies, and Turner is working on several more. But that's an unpredictable, high-stakes game—and the networks have far deeper pockets. "The easy part is probably over," says Garth R. Ancier, president of Walt Disney Co.'s network-TV production unit.

Turner must also prove he can manage the large international company he has created—a leviathan transition that has sunk many entrepreneurs. With some 4,000 employees in outposts stretching from Nairobi to Moscow, Turner Broadcasting is a complex organization. Its operations include programming, advertising and subscription sales, syndication, home-video marketing, product licensing, and two professional sports teams, the Atlanta Hawks and Braves. While some staffers call him a superb delegator, others privately wish

he would let others call more of the shots. Turner Broadcasting is "a one-man show," says one executive.

That management style may cause major problems with Turner's 15-member board of directors, which now includes seven seats for the cable operators that bailed him out in 1987. The directors backed his launch of TNT and approved continuing support for his money-losing Goodwill Games, an international sports competition he unveiled in 1986. But earlier this year, they quashed his proposal to spend \$100 million for control of the Financial News Network, which remains owned by Infotechnology Inc. At times, the relationship has been rocky. "Ted doesn't like the fact that he's not in total control," says one director. Publicly, at least, Turner says relations with the board are good. "We're not going to take the kinds of risks we did before," he says. "And we don't need to take them."

Still, some executives speculate that

**TURNER
BROADCASTING'S
\$5 BILLION SHOW**



DATA BEAR, STEARNS & CO.
COMPANY REPORTS

**SPORTS FRANCHISES
Value: \$150 million**

Atlanta Braves baseball team and
Atlanta Hawks basketball team



REAL ESTATE

Value: \$165 mi

Includes Atlanta's CNN Center, with office, hotel, and retail sp. and Omni Arena sports and music center



CABLE NEWS NETWORK AND HEADLINE NEWS

Value: \$1.5 b

Two 24-hour TV news services reach 50.8 million U.S. homes 3.5 million European cable homes. Adding new international bureaus and courting cable operators in Europe and Asia

ner might eventually get tired of the time, cash in, and leave. Turner isn't rule out any possibility. But even he stays put, as most of his employees do, some executives worry that the factors may stifle his creativity. That could be damaging at a time when even Turner admits it's harder to come up with new money-making ideas. "Everything goes faster," he notes, launching one of his renowned jumbled monologues. "It's like the last part of *2001*, you know, the movie. It's like *Future Shock*. Fifteen years ago, it was real easy. And it was easy to come up with a network. It's much more complicated now."

But then, R. E. "Ted" Turner III loves a challenge. "Ted will always throw the challenge for something bigger, bigger, and bigger," says investor Irwin Mazo, an accountant who worked with Turner and his father at the family's billboard company in Savannah, Ga. Even as a young man, he often pushed himself beyond prudent limits. Before he was 10, he earned the nickname "Turnover

Turner," for frequently capsizing his first sailboat in dangerous winds. His mother, Florence, remembers him getting stranded on an island near their home when his boat smashed into the shore. He scribbled "Help" in the sand leading to a rescue by a Coast Guard helicopter.

Critics say Kerkorian took Turner to the cleaners, but old MGM films have helped fuel dazzling growth at TNT

Idle time proved troublesome for the energetic boy. His mother relates that he regularly spread mud on his neighbor's white sheets as they hung on the line, and he once pulled ornaments off the family Christmas tree, stepping on them as his mother chatted with a friend. "He was always mischievous."

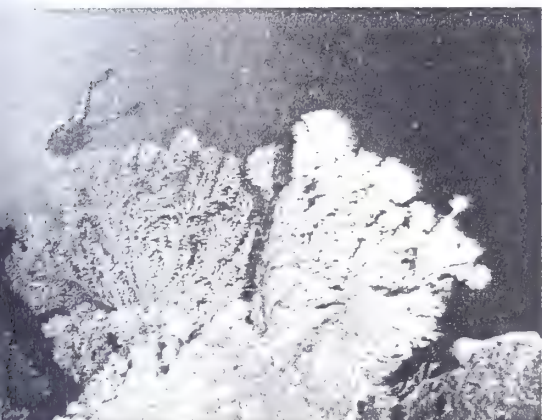
she says. School was boring for Turner, but he never let it interfere with his education. In eighth grade, he became an accomplished taxidermist with the help of a mail-order course. He was quick on his feet, too. During his first night at military school, a dormitory supervisor walked by his lit room long after the lights-out mandate. "Who's responsible for those lights?" demanded the supervisor. "Edison, sir," replied Turner, as the man dutifully scribbled Edison on his pad and walked away.

'CRAZY KID.' At Brown University, Turner quickly earned a reputation as a party animal and was eventually thrown out of his fraternity, Kappa Sigma. "He was a crazy kid," says his classmate Stephen Liebmann, now a New York marketing consultant. Once, a friend bet Turner he couldn't drink a big bottle of Chivas in 10 minutes. Turner downed it. "He essentially risked his life," says Liebmann. "That's the thing about Ted, he just throws caution to the wind. I'm afraid that one day I'm going to hear the story of his unnatural death."

Turner was kicked out of Brown after two years, when authorities learned his girlfriend had effectively moved into his dorm room. He is also remembered for setting fire to a fraternity's papier-mâché homecoming display.

Turner made his way back home after a brief detour to Miami, where a friend who joined him says they lived as "paupers." When his father committed suicide in 1963, Turner, then 24, regained control of the billboard concern, which had been sold to an investment group. "Everybody would have bet 90 to 1 he wouldn't have succeeded," remembers Jimmy Brown, a lifelong family employee who helped raise Turner and his five children. Brown now helps manage Turner's far-flung ranches, plantations, and a tiny South Carolina island. In 1970, Turner proved the skeptics wrong again by acquiring a nearly bankrupt UHF station in Atlanta and, six years later, beaming its signal nationwide via satellite. SuperStation TBS was born.

The nickname "Captain Outrageous" didn't come along until 1977, when he won the America's Cup yacht race and showed up drunk at a post-race press conference. It's a fitting moniker. He has an opinion on every subject and never hesitates to share



STATION TBS

Value: \$1.5 billion

Independent TV station, featuring reruns, sports, and movies acquired from MGM. Also owns 1,700 hours of TV and hundreds of cartoons



ENTERTAINMENT CO.

Value: \$1 billion

Production and licensing subsidiary owns library of 3,700 movies, television shows acquired from MGM. Also owns 1,700 hours of TV and hundreds of cartoons



TURNER NETWORK TELEVISION

Value: \$615 million

New cable entertainment network reaches 29.2 million homes

it. In interviews, he's likely to launch into spontaneous asides on practically anything, such as lambasting General Electric Co. as "the most corrupt large corporation in America" because of its defense-contracting problems. Such jabs don't always sit too well with his board's cable operators, who do business with GE's NBC Inc. unit. "It's totally irresponsible stuff, and a number of Turner's board members have said they don't buy into it," says Thomas Rogers, president of NBC Cable.

PREACHING PEACE. Other people say Turner has mellowed of late. In his early years, "he was exciting, brilliant, had all sorts of ideas and a can-do attitude," says Steven Farella, director of corporate media services at ad agency Wells, Rich, Greene Inc. "Now, he's got to protect what he owns." But Turner still has plenty of energy. He continues to trot the globe, meeting with world leaders to preach peace, population control, and the importance of saving the environment. In 1985, he formed the Better World Society in Washington to support and produce socially conscious TV programming. His social life is also as busy as ever. Twice divorced, he now spends some time with his former pilot, J.J. Ebaugh. He also dates other women.

Clearly, the most trying time in Turner's business career came three years ago. Miffed after an unsuccessful raid on CBS, Turner bought MGM instead. Analysts generally agree that he overpaid West Coast investor Kirk Kerkorian by some \$300 million for the studio's library of old movies.

"I counseled Ted not to do the MGM deal since I knew he couldn't afford it," says John Malone, chairman of Tele-Communications. At the time, it appeared that Turner didn't have enough cash to pay dividends on Kerkorian's preferred stock. The alternative was to pay him in common shares, which would have diminished Turner's control. While Turner concedes the acquisition was risky, he insists he didn't overpay.

Malone, who now sits on Turner's board, lined up the 31 cable operators who bailed him out with new equity in 1987. "I was terribly afraid he would have to liquidate," says Malone. "The cable industry felt he was far too important to let that happen."

As it turns out, Turner cashed in on his MGM acquisition by using the library's movies to fill TNT's schedule. He has craftily repackaged them as "clas-

sic" films, partly by improving their once-poor print and sound quality. Despite howls from furious Hollywood directors, Turner continues to add color to popular black-and-white MGM films, successfully enticing young viewers to watch movies such as *Adam's Rib*. He has also tried a few original movies, including a Martin Sheen production called *Nightbreaker*, Hal Holbrook in *Billy the Kid*, and Farrah Fawcett in *Double Exposure: The Story of Margaret Bourke-*

Puris Inc. "They've got a great library with MGM, and we're in there with [ads for] BMW."

For TNT to realize Turner's dream of out-networking what he sometimes calls the "nitworks," though, it has to buy and produce a powerful, ongoing stream of original programs. Besides upping TNT's original-programming budget, he's trying to cut deals with such big-name producers as Ron Howard and David Puttnam. Turner also plans to air such events as the Goodwill Games in 1990, and he may run National Basketball Assn. games. "Our original programming will be a trigger to get people to rethink cable," says TNT Executive Vice-President Scott Sassa.

NO GUARANTEE. But the problem with challenging the networks is that they are still so powerful. Each spends \$1.5 billion to \$2 billion on programming—vs. about \$300 million for Turner's four channels combined. The broadcast networks also have far more clout among Hollywood producers, who have a financial interest in seeing their shows draw big ratings and go into syndication. Finally, there's no guarantee that Turner's board will let him spend lavishly to produce the kind of programming he needs to make TNT competitive with the networks. "You never want to sell Ted Turner short, but it's hard to extrapolate where he is today to competing with the major networks," observes NBC Cable's Rogers.

Some outside cable experts question whether Turner is loading too much onto his plate. By next year, he hopes to launch a regional sports channel for the Southeast, and he is toying with the idea of a specialized international entertainment network, too. It is only in the early planning stages, but it might look very much like TNT. "Although the plate is full, the appetite [among viewers] is just fine," assures Senior Executive Vice-President Robert J. Wussler.

For Turner, the lure of international TV markets isn't only monetary. He wants to use his worldwide broadcasting empire as a platform to espouse his political views. While CNN staffers say he leaves the news operation alone, his Better World Society frequently finds an audience at SuperStation TBS for controversial programs that other broadcasters wouldn't touch. This summer, it plans to air a 90-minute special on abortion, with a pro-choice slant.

Soon, Turner should be in even better



TCI'S MALONE LED THE 1987 BAILOUT BY CABLE OPERATORS

White. New projects in the works include life stories of Donald Trump and author Ian Fleming.

TNT's overall ratings of around 0.8, signifying less than 1% of all TV households, are tiny next to a major network's average prime-time rating of about 14. But the size of its audience after such a short time has surprised cable operators and pleased advertisers. "TNT is great," says Micheal Lotito, director of media services for ad agency Ammirati &

TBS, CNN, Headline News, and TNT accounted for 31% of all basic-cable viewing in the first quarter of 1989

shape to pursue his interests. The company still has a mountain of debt, but it recently secured a \$250 million line of bank credit, and it expects a gain of approximately \$65 million from the sale of its CNN Center headquarters complex in Atlanta.

By now, once-skeptical analysts are even confident that Turner will be able to float a much less expensive financing

package, most likely a combination of traditional corporate debt, bank loans, and high-yield paper.

At that point, Turner could conceivably take on more debt and buy back stock in his company. Some Turner executives think the battle over Time Inc.'s destiny could provide such an opportunity. If Time needs cash, they reason, it might sell its 13% stake in Turner Broad-

casting. On the other hand, Time has said repeatedly—most recently at its June 30 shareholders' meeting—that it would like to buy more Turner Broadcasting stock. As Turner himself likes to say, "anything can happen." So don't touch that dial.

By Scott Ticer in Atlanta, with William C. Symonds in Denver and Peter Finch and David Lieberman in New York

FROM 'CHICKEN NOODLE NETWORK' TO GLOBAL POWERHOUSE

In Greece, a UHF station broadcasts it to some 1.7 million homes. In Japan, a scaled-down version is aired late at night by Asahi National Broadcasting Co. Diplomats at the U.S. Embassy in Bonn tune in throughout the day. And Italian President Francesco Cossiga even installed a satellite dish to pluck it out of the sky.

Cable News Network, once derided as "Chicken Noodle Network" by veteran TV news hounds, has grown up in a big way. Not only has it become one of the most pervasive cable channels in the U.S., reaching nearly 51 million homes, but it's also gaining considerable influence overseas. And with good reason: With 1,600 staffers and 21 bureaus stretching from Chicago to Cairo, its ability to play out the drama of breaking news has never been stronger.

The news network's international efforts are especially dear to Ted Turner's heart. That's partially because they could open the door for him to offer non-news programming from Turner Network Television and other sources overseas—something he would like to begin doing by the mid-1990s. CNN now airs in 83 nations, up from 55 in 1987. In some countries, viewers of CNN International get a slightly customized version, mixing local weather and news with U.S. reports. It is also available in 160,000 hotel rooms catering to international travelers. And it is monitored in diplomatic installations throughout the world, including British Prime Minister Margaret Thatcher's office and Japan's Ministry of Foreign Affairs.

THINKING BIG. Now, CNN is beginning to tap the emerging cable market in Europe. It has 3.5 million subscribers there and expects to be in 6 million cable homes by yearend. Yet those aren't the kinds of numbers that attract big advertising revenues. So Turner is pushing an abbreviated version of CNN onto more

foreign broadcast networks. It's already airing in Greece, Italy, Korea, and Taiwan, among others. And he's negotiating with Bundespost, the West German state-owned post and telecommunications company, for airtime in several major markets. This year, CNN will even be sold as an over-the-air subscription service in Moscow. To supply more international news, Turner is opening six new bureaus this year, raising the total to 18.

As usual, Turner and his people are thinking big. Eventually, "we'll be able to deliver an ad message simultaneously to opinion leaders all over the world," vows Robert W. Ross, managing director

that they had to invest some \$250 million in the domestic CNN before it finally turned a profit in 1985. Last year, CNN and its companion Headline News operation reported \$267.1 million in revenues and enviable operating profits of \$85.5 million.

Not all the news out of CNN is cheery, however. Over the past five years, its U.S. ratings have been stagnant, at about 0.8% of the cable audience. Now, through heavy advertising on radio and other Turner channels, CNN is trying to educate viewers that it isn't just 24 hours of hard news. Instead, it offers specialized shows on such topics as business,

travel, fashion, science, health, and politics. This fall, CNN also hints that it may go head-to-head with the major networks on its main evening newscast—a first. "We've got them to taste the product. Now, we have to get viewers to eat it more," says Paul R. Amos, CNN's executive vice-president for news programming and production.

More often than not, CNN's ratings rise and fall with the ebb of news events. Interest in China boosted overall CNN ratings 45% in the week following the carnage. "A big, continuing story is the best thing that can

happen for CNN," says Turner. "The Chinese story was great.... What we need is for the students here to riot." He adds after a pause: "I'm just kidding."

Nine years ago, Turner's critics wondered how he could possibly find enough news to fill 24 hours. But, as usual, Turner was brimming with confidence. "I was standing right next to Ted when he launched CNN," recalls Denver cable-system broker Bill Daniels. "He turned to me and said, 'The day the world comes to an end, CNN will be there to cover it.'" Let's hope Turner was kidding about that, too.

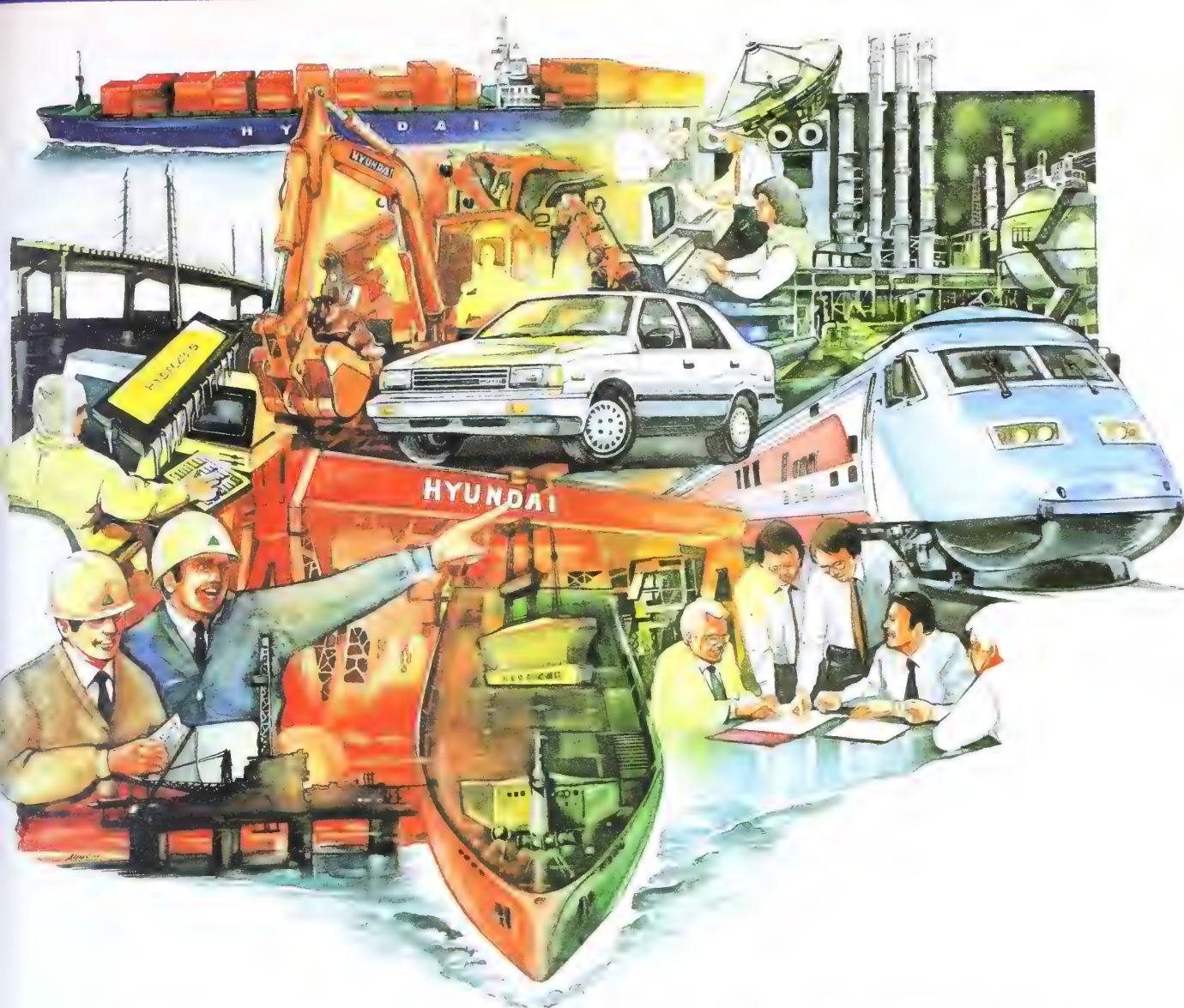
By Scott Ticer in Atlanta, with bureau reports



CNN IN JAPAN: NON-NEWS PROGRAMMING MAY BE COMING NEXT

of CNN International Sales Ltd. in London. But that may be tough. Major hurdles include the lack of a homogeneous market and a single language, a shortage of cable homes, high costs for satellite time, and the hammerlock of many state-owned TV operations.

The effort is not cheap. Turner is spending about \$25 million a year to spread CNN overseas. Turner officials contend the company is already making a profit on CNN International's hotel operations, though not on European cable. Turner insists that "it's just a question of time" before cable catches on in European households and he reaps large financial rewards. Executives point out



How Do You See Hyundai?

You probably picture Hyundai as a maker of affordable, high-quality cars.

That picture's not wrong. Just incomplete.

Those who work with advanced computers, ships and nuclear power plants have a better idea of our scope.

In fact, you'll find the Hyundai name behind sophisticated engineering projects, petrochemicals, robotics, and satellite communication systems, among other exciting and diverse industries.

Which is why, in Korea, Hyundai has become a symbol of our nation's economic progress.

So by all means, remember our cars. But don't forget the big picture.



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COMPUTERS IN SCHOOL: A LOSER? OR A LOST OPPORTUNITY?

Chalk-age teachers and dull software mean many PCs serve as typewriters and flash cards



Quince Orchard High School, in affluent Montgomery County, Md., stands as a brand new \$19.6 million testament to a strong tax base—and a commitment to high-technology education. With 288 computers for 1,100 students, it is a showcase of gee-whiz techno-possibilities. Drafting classes can spin out sophisticated 3-D renderings. Students can prepare for math tests with visually oriented trigonometry programs. The media center, a.k.a. the library, offers an electronic card catalog, encyclopedia entries on compact disks, and Dialog, a data-base service.

Since the school opened last September, though, students have used the terminals mainly for word processing and classes in computer science. And Principal Thomas Warren can't yet say what all the gleaming new gear has added to

the learning process. "We believe it improves the quality of education and increases excitement. But I can't give you any proof of that," he says.

Boosters such as Warren can be found in every public school district. But after a decade of enthusiasm, there's still no clear consensus about the role, value, or effectiveness of computers in schools. Well-thought-out goals are still lacking. Gains in achievement have proved modest at best. And in many schools, initial fervor has given way to "benign neglect," as one disillusioned teacher puts it. "Computers are still peripheral to the central goals of the school," says Karen Sheingold, who runs an educational technology center at New York's Bank Street College of Education. "The bottom line is that it's really hard to integrate technology with the curriculum."

In part, that's the fault of the schools, which have largely ignored teacher training and made few efforts to rethink curriculum in light of what computers can offer. The situation also reflects the poor quality and extreme narrowness of much of the available software. How to improve the market offerings and determine how computers should fit into a school's learning process are unanswered questions. Parents, school administrators, teachers, and hardware and software vendors all have their own agendas, which rarely mesh into focused educational goals.

NO VISION? Used properly, computers can help tailor instruction for individual students or small research teams. They can simulate experience outside the realm of books and overcome narrow subject specialization. A program that makes complex ideas understandable by turning complicated equations into simple graphics could raise the sophistication of science teaching, says Andrew R. Molnar, an education specialist at the National Science Foundation. "We should be looking for big opportunities rather than minor improvements," he says.

For the moment, though, minor improvements have the upper hand. Most schools have plodded along using computers for word processing, math drill and practice, and promoting computer literacy. Critics call such uses a waste of expensive technology offering little educational bang for the buck.

Take computer literacy. In one view, it's as important as reading and writing for tomorrow's workers in the Information Age. As of this year, Boston public schools require all graduates to pass an exam testing their facility with word processing, data-base and spreadsheet programs, and a programming language. But with Boston's 46% dropout rate, the students most in need of job skills won't be jumping this hurdle. And some worry that computer literacy has become an end, not a means. Says Robert Pearlman, technology consultant to

the American Federation of Teachers: "A lot of schools plateaued at computer literacy. They didn't have a vision beyond that." Whether word processing programs help develop better writing or simply produce more professional-looking papers is also in dispute. And complaints about another prevalent application: using computers for repetitious drills, mainly in mathematics.

In one sense, such exercises shouldn't be controversial. Many educators agree that rote practice, always an integral part of learning basic skills, has been given short shrift in recent years. Time on a terminal raises scores on standardized achievement tests, by 12 percentage points on average, and can save time on covering course material, according to James A. Kulik at the University of Michigan. Mary Burk, a sixth-grade teacher in the Indian Springs district near Chicago, suggests that computers grab students in a way that books don't: "The eyes of today's video-oriented kids are automatically drawn to screens."

But, whether using computers to practice basic skills is an appropriate use of powerful technology is another matter. Henry M. Levin, a professor of education at Stanford University, studied the impact of computer time on test scores in grade schools and found it was more cost-effective than reducing class size or extending the school day by an hour. But tutoring by order children produced far higher gains in math and reading much more cheaply than using computers. "You might as well use flash cards instead of making kids push buttons on a computer," says Bill G. Albridge, executive director of the National Science Teachers Assn. (NSTA).

LOADLESS. What's more, a growing number of educators say schools shouldn't be focusing so much effort on increasing test scores—which have a debatable relationship to the quality of education. Instead, schools should emphasize innovations that improve "higher-order" thinking skills—an area of more serious deficits.

Can computers help with those skills? Innovative uses are not unknown. Students throughout the country have collected measurements on radon, acid rain, and drinking-water quality, using PCs to build a national data base that's being analyzed in science



HIGH-TECH SHARING: A PC MAKES THE ROUNDS IN SOUTH SAN FRANCISCO

classes. Scholastic Inc.'s *Operation: Frog* simulates dissection without the gore, allowing for more exploration and detail—though some critics say the results are too perfect. One highly acclaimed multimedia program, *The Voyage of the Mimi*, developed by the Bank

Street College of Education and a group of textbook publishers, simulates two research expeditions—one environmental, one archaeological. Pupils direct their own individual expeditions—using maps, navigation, hieroglyphics, astronomy, math, and ecosystem models.

Most software isn't designed for such purposes. In its recent report on computers in the schools, entitled

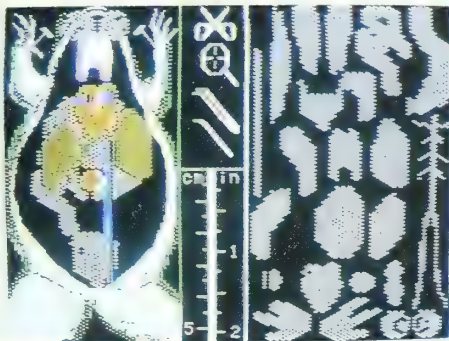
Power On!, the Office of Technology Assessment (OTA) found that only 7% of educational programs developed or demonstrated a concept, while a mere 1% tested a hypothesis. Andrea Bailey, a tenth-grader at Maryland's Quince Orchard school, calls her biology program "a bore." Why? "You just read on the computer, like a textbook," she says.

It's far more difficult and costly to develop software for problem solving and conceptual thinking than for drills and word processing. Most companies in the \$260 million-a-year educational software market shun the higher risk, says Stanford's Levin. He argues that the federal government should subsidize software development. *Mimi*, in fact, was paid for by federal grants. Each of its two packages took three years and several million dollars to develop. Some 7,000 sets have been sold at prices ranging from \$1,050 to \$1,300, but that hasn't covered development costs.

Give us more time, the industry says. "We're still not far past the pioneering stage," argues Jan Davidson, president of Torrance (Calif.) Davidson & Associates, Inc. It makes the best-selling but controversial *Math Blaster*—a basic grade-school math drill program modeled after video games. But the quality of software is also shaped by what schools demand. And most computer purchases are made by administrators—for whom the litmus test of accountability is the test score, not such lofty long-term goals as higher-order learning and thinking.

One of the hottest market segments reflects that pressure. For up to \$100,000, a half-dozen suppliers, led by Jostens Learning Corp., sell schools so-called integrated learning systems: computers, software, and a service policy. Used in about 25% of school districts, the math, reading, and writing programs move students along a fixed curriculum, allowing little experimentation. Sales pitches aimed at principals

CONTROVERSIAL SOFTWARE

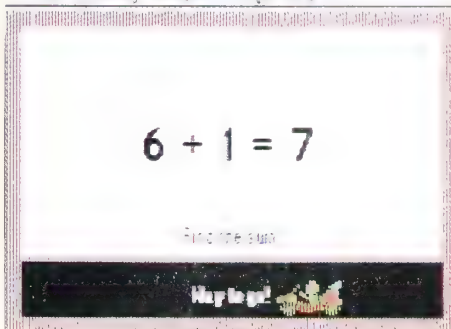


OPERATION FROG for grades six and up from Scholastic Software simulates dissection. Students can "cut up" a frog, remove parts, view organs working, reconstruct frog

PRO: Allows repetition, provides more information than real dissection, saves amphibian lives

CON: Misses real experience, never fails

■ File Activity Subject Stage Help

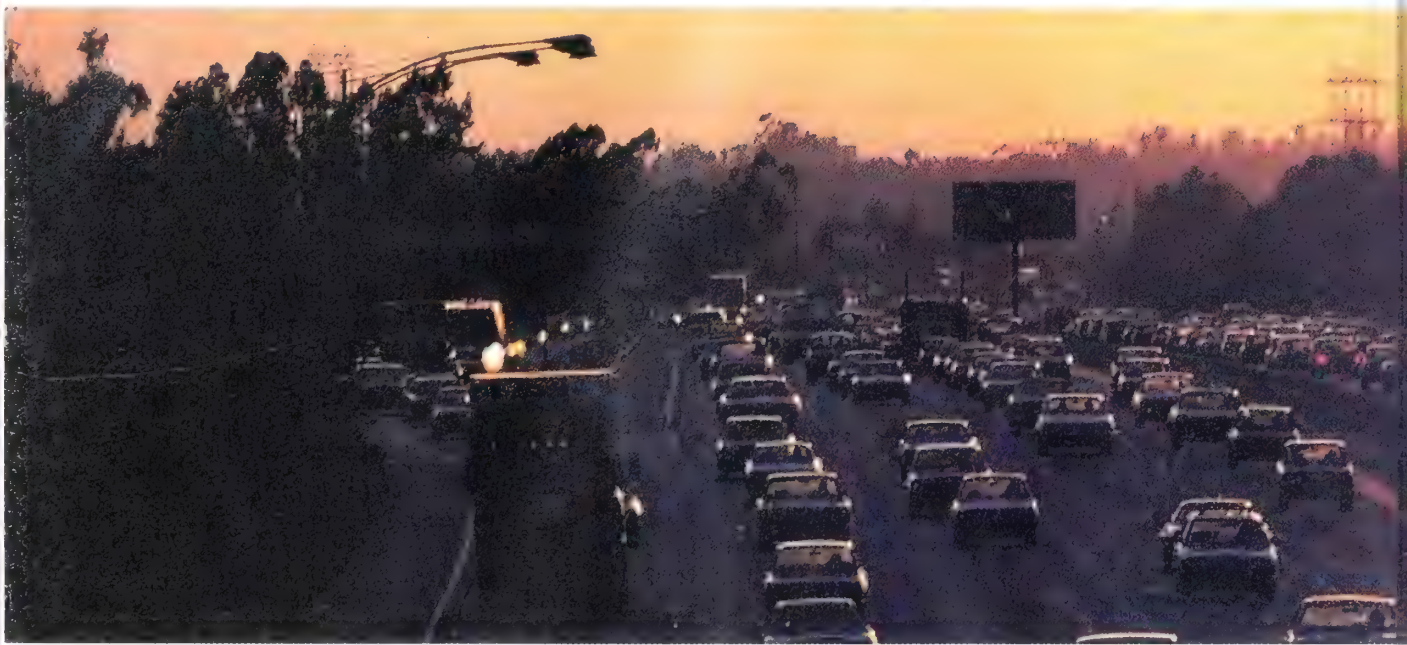


MATH BLASTER from Davidson & Associates provides grade-school math practice. In video-game style, rewards correct answer

PRO: Holds attention, enlivens necessary drills, students set own pace, saves teachers' time.

CON: Video aspect is gimmicky; rote learning, not concepts; no advantage over flash cards

This is no place on the move.



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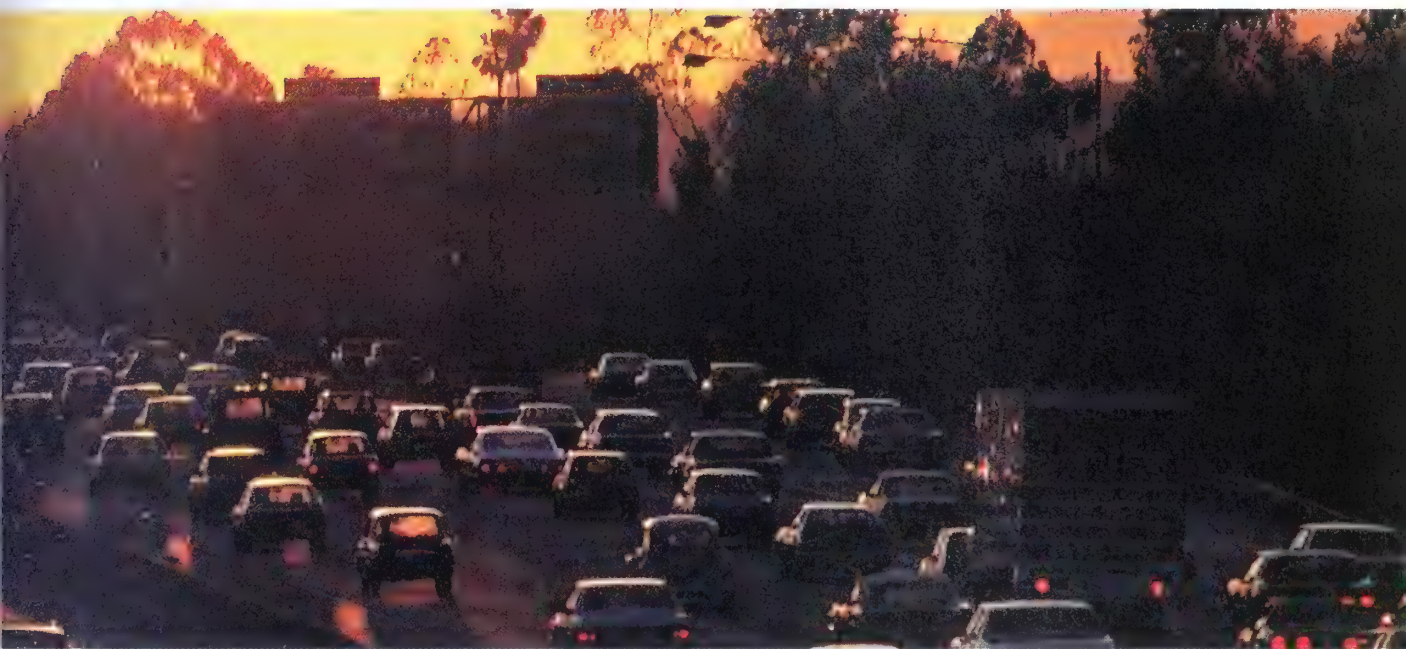
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Coalition for Literacy

Social Issues

and district superintendents promote the systems' ability to raise test scores.

Lorraine L. Becker, principal of the De Anza Middle School in Ventura, Calif., says the Jostens system frees students to work at their own pace and lets teachers focus on small groups of students who need extra help. But "the top-down approach"—where administrators buy the technology and essentially impose it on the classroom—"upsets teachers," says Charles Blaschke, president of Education Turnkey Systems Inc., a market researcher in Falls Church, Va.

Interest, enthusiasm, and cooperation from classroom teachers are essential if computer use is to blossom beyond the mundane. Yet schools that encourage teachers are few. San Francisco's Roosevelt Middle School has had PCs since 1981. But Roosevelt teachers, offered only optional training on their own time, have never integrated computers into their lesson plans. There is little money for software. And with 42 machines, a student body of 850, and classrooms averaging 35 students, there aren't enough PCs to go around. These days, the terminals are gathered in a single computer lab where they are mainly used to teach typing.

TRAINING GAP. Only a third of all public school teachers have had even 10 hours of computer training—and the time is mostly spent learning to use the machine, rather than how to teach with it. There are exceptions. A small but thriving subculture of computer enthusiasts within the schools shares software and information. In North Carolina, some science teachers are exchanging ideas through a computer network. But in general, little is being done to remedy the training gap—by the education colleges, school systems, or the companies that sell into this market.

"The real challenge," says Bernard Gifford, education vice-president for Apple Computer Inc., "is to continue to excite the [innovative schools] and challenge the ordinary, dull, and mundane to emulate them." Apple is in a position to be influential. About 60% of the PCs installed in schools are Apples, and most educational software runs on them.

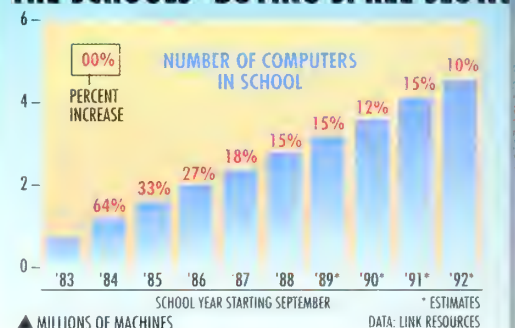
Like its chief competitors—IBM, with 20% of the market, and Tandy—Apple sells to schools at a discount. The overriding impetus, industry analysts say, is to develop brand loyalty among future consumers. Perhaps a sensible marketing strategy, but will it produce the best educational results? "I don't see any organizations pushing for more computers

in schools other than those who benefit such as the computer manufacturers says a cynical Aldrich of NSTA.

But the market isn't about to disappear. Computer sales still climb, though at a slowing pace (chart). Terminals installed in the early 1980s will have to be replaced in the next few years. Schools will "continue to commit to it," says Ar Wujeik, a consultant to Link Resources Inc., market researchers in New York. "But they will be under more pressure to prove its effectiveness."

'SHOW ROUTINE.' Some educators, meanwhile, still believe that limited access is the main problem. According to the OT, the \$2 billion spent on computer hardware in the past decade represented less

THE SCHOOLS' BUYING SPREE SLOWS



than 0.2% of public schools' year spending. Leon A. Kurasowicz, who teaches high school math in Littleton, Mass., complains that his school's two dozen PCs, for 500 students, are isolated in a computer lab. He wants PCs in his classroom to demonstrate concepts and allow kids to work on group projects, "but we can't get the money," he says. "It has to be more than a show routine or it's not going to revolutionize education any more than TV did."

Although 96% of U.S. public schools have computers, there is only one for every 30 students, most of whom use them only an hour a week. At Skyline Elementary School in South San Francisco, 540 pupils, most from working-class immigrant families, share 20 PCs that are rolled on carts from room to room.

It's hard for schools to justify spending more when the value still seems vague—and when technology must compete with such other pressing and costly needs as support for poor children and salary increases to attract better teachers. "You have to ask how you can reach schools more effectively," says Albert Shanker, president of the AFT. "You will never have goals for technology until you clarify the goals of the school."

By Maria Shao in San Francisco, with John Carey in Washington, Elizabeth Ellich in New York, and bureau reports

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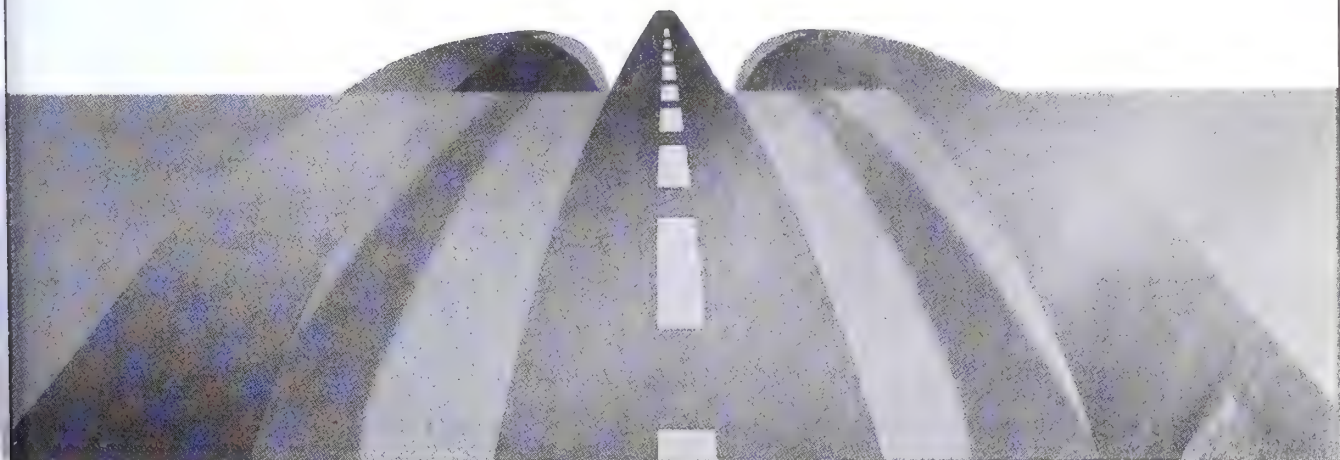
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By Charles N. Coppi

**Senior Vice President, Technology
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WASTE NOT, WANT NOT? NOT NECESSARILY

The recycling industry is trying to gear its supply to demand

Faced with mountains of garbage and no place to put it, cities from Seattle to New York are mandating massive recycling programs for paper, glass, and plastics. But their zeal for recycling has created a serious mismatch between the supply of some materials and the demand for them. Gluts of some materials are already sending prices plunging; supplies of others are so uncertain that manufacturers won't commit themselves to using them. "Governments passed recycling legislation but gave no consideration to markets,"

sending disposal costs soaring. New Jersey cities, for instance, which paid mere \$30 a ton to dump refuse in 1987 now shell out about \$100. And that creates a powerful incentive to recycle glass, metal, paper, and plastics.

BOTTLE BOTTLENECK. Yet the marketplace already is unable to absorb some reclaimed materials. In five years, the amount of old newspaper collected has increased by 34%, glutting the market. New Jersey towns that just nine months ago pulled in \$20 a ton for newsprint must now pay up to \$10 a ton to ship



says James R. Meszaros, a divisional vice-president at Browning-Ferris Inc., a waste-management leader.

So now, state and local governments are teaming up with waste-management companies and industry to launch a number of innovative arrangements to assure adequate supplies and markets for the tide of recycled materials. The Environmental Protection Agency is getting into the act. It is evaluating markets for recycled goods and may propose incentives to balance supply and demand.

There's little time to waste. More than three-quarters of the 160 million tons of solid waste that Americans throw out each year is hauled to landfills. But more than half of the nation's 5,499 landfills will be full in just six years. That's

away. In Minneapolis-St. Paul, so many old newspapers are piling up that Wayne A. DiCasteri, president of paper broker Pioneer Paper Stock Co., says that unless new demand pushes newsprint prices back up, "we'll probably get out of that business." That would dump the company's annual collection of 40,000 tons of newsprint back on the streets.

Shortages are also a headache. Last year, Wellman Inc., the nation's largest plastics recycler, gobbled up most of the 1.5 billion two-liter soda bottles handed in for recycling and turned them into everything from carpet fibers and tennis ball fuzz to resins used for plastic moldings on cars. But, says Vice-President Dennis M. Sabourin, demand for the products is so high that the Shrewsbury

J.) company could use twice the number of bottles.

To match supply with demand, Rhode Island recently set up one of the nation's largest recycling facilities. The \$5 million plant ships more than 200 tons of paper, metal, glass, and plastic waste a day under the state's three-year-old recycling program. Rhode Island plans to build another plant. "We're displacing the mom-and-pop facility and the Boy Scouts," says Victor A. Bell, chief of the Rhode Island Office of Environmental Coordination.

Bell and other state officials are jumping industry in the Northeast to build markets for recycled material. Recently, state officials from Rhode Island, New York, and other Northeast states met with the region's newspaper publishers and paper industry groups to push for the increased use of recycled paper. And they seem to be getting results. James L. Burke, executive vice-president of Garden State Paper Co. in Fairfield, N.J., says inquiries about his company's 100% recycled newsprint have increased in the past six months. He is looking for a site to build a new plant.

MAKING MARKETS FOR RECYCLED MATERIALS

PLASTICS Eight polystyrene manufacturers, including Amoco, Dow, and Mobil, are forming the National Polystyrene Recycling Co. Companies such as Rubbermaid will purchase the plastic.

NEW YORK CITY will mix colored or broken glass, ceramics, and mirrors with asphalt for paving streets. The city says it can fill it collects to make "glassphalt."

INTEGRATED WASTE MANAGEMENT

Rhode Island opened a massive state-run facility that guarantees companies a steady stream of recycled materials.

DATA: BW

Plastics makers, faced with growing pressure to reuse their materials or ban them outright, are setting up recycling ventures of their own. So far, dozens of such ventures are in the works—partly because recycled polymers can cost one-tenth to one-eighth of what it costs to build new capacity. Even so, the industry "knows something has to be done," says Karl W. Kamena, director of government affairs for Dow Chemical Co.'s Plastics Group.

Earlier this year, Dow and seven other chemical companies, including subsidiaries of Mobil, Amoco, and Arco, formed the \$16 million National Polystyrene Recycling Co. NPREC will establish regional processing centers next year to provide such users as Rubber-

maid Inc. with a steady source of recycled plastic.

Du Pont Co., which uses 1 billion pounds of recycled plastics annually in its own products, has agreed to reprocess some of the 2 billion pounds of plastic waste generated in the state of Illinois. The plastic will be turned into such things as highway barriers, signposts, and lane markers for use by the state's highway department. In a separate deal, the chemical maker signed a pact with Waste Management Inc. to build a recycling plant for plastic collected by the giant waste contractor.

Finding that the use of recycled materials in their products is becoming a marketing necessity, companies are becoming eager customers of the new recycling ventures. Procter & Gamble Co., for one, already uses some recycled paper in 70% of its product packaging. Now, the company is marketing Tide, Cheer, and Downy bottles manufactured from recycled plastics.

P&G has also launched a pilot project in Seattle to recycle disposable diapers, one of its most successful products. It will separate the plastic, pulp, and absorbent gel, and sanitize the materials. The pulp will be used for wallboard liner and cardboard boxes and the plastics will become flowerpots and architectural lumber for landscaping. "Part of the learning will be to see what additional markets we can develop," says Robert A. Greene, associate director of research and development.

GLASSPHALT JUNGLE. Until new markets emerge, cities are taking steps to make sure they're not saddled with mountains of separated materials. Seattle pays one of its contractors, Rabanco Recycling Co., to take materials when prices drop below certain points. But the city gets a share of the profits when prices are high. That way, both assume the risk of market ups and downs.

New York, which will begin a citywide recycling program this year, has set up a special 16-person marketing group to create markets for the goods it collects. Demand for clear glass bottles is fairly brisk. But the city was worried about where it would unload ceramics and junk glass—the broken, colored bits from shattered windows and mirrors, for example. The solution? The city will mix the crushed glass with asphalt. The resulting "glassphalt" will be used to pave city streets.

Whether or not recycling becomes a critical component in solving the garbage crisis depends on the success or failure of these market-making techniques. With the landfills almost overflowing, the initiatives are coming none too soon.

By Vicky Cahan in Washington, with bureau reports

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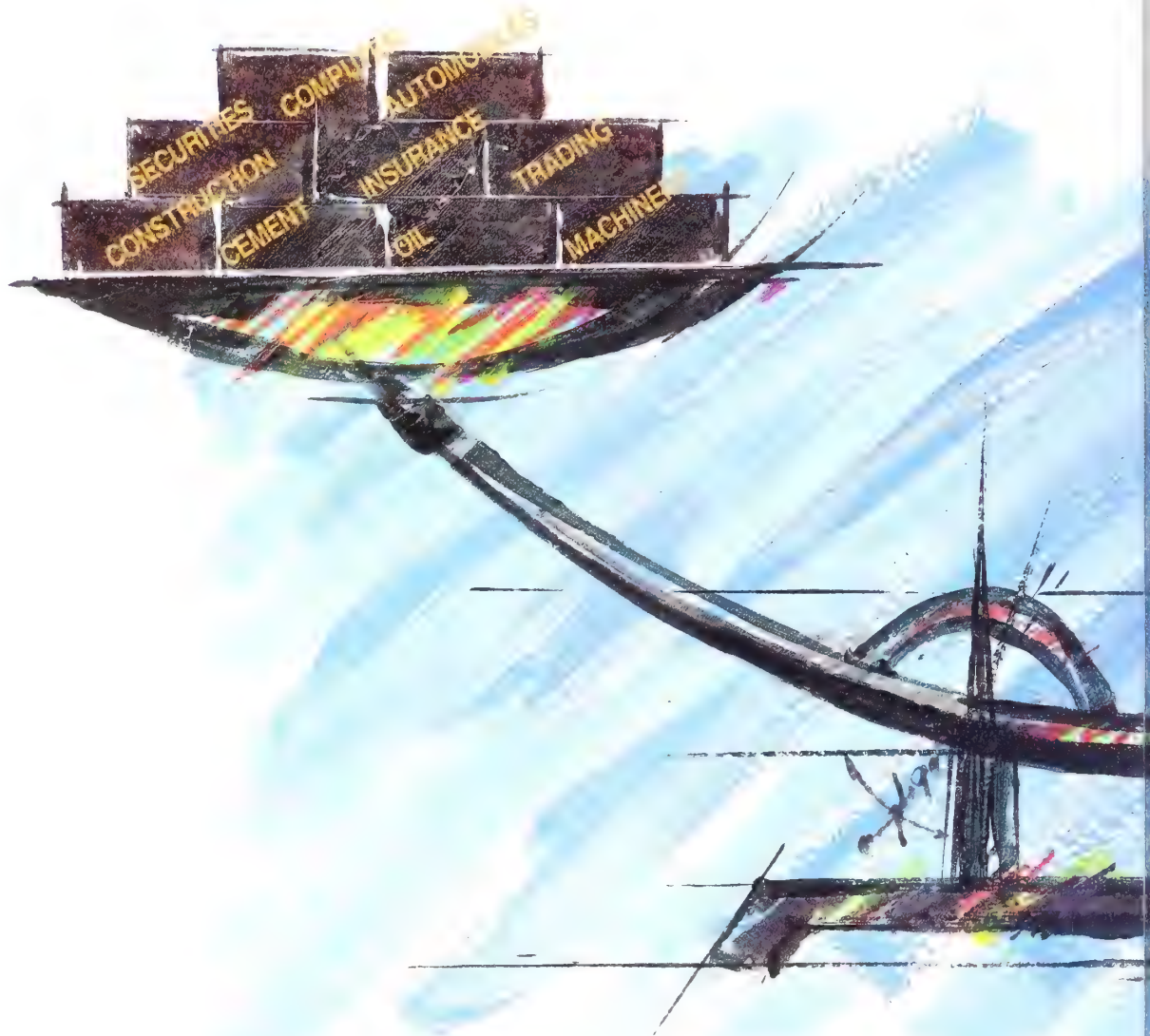
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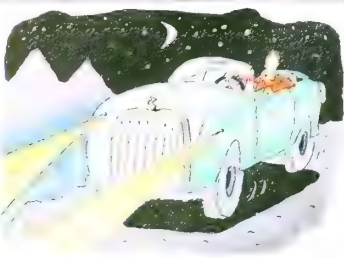
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Developments to Watch

EDITED BY OTIS PORT

JUST DOWN THE ROAD, SMALLER, BETTER HEADLIGHTS



If you thought the switch from yesterday's sealed-beam headlights to today's halogen models brought a major improvement in nighttime driving, just wait a few more years. That's when the latest innovation—arc-discharge headlights—will begin showing up. Developed

by General Electric Co., which has joined with Ford Motor Co. to bring the new technology to the automotive market, arc-discharge headlights will be much smaller, yet will put out whiter light. And GE says that existing applications in stadium lighting show that the bulbs will last six times as long.

The bulbs are positively tiny—about the size of a single matchbook match, but with the match head in the center. Inside that bulge, light is generated by an electronically controlled arc, or spark, jumping between two tungsten electrodes in an atmosphere of xenon gas. Because the bulbs are so little, the whole headlight can shrink to roughly the size of a golf ball. For Ford and other carmakers, that means new freedom of design and aerodynamic styling as well as weight savings. GE figures the new headlights could spark a billion dollar business within a decade.

IN CAMBRIDGE LABS, EVEN MICE HAVE RIGHTS, TOO

Chalk one up for the animal rights activists. After three years of debate, the Cambridge (Mass.) City Council in late June approved an ordinance, apparently the first of its kind, mandating broader protection of the 60,000 animals used yearly by researchers at Harvard, Massachusetts Institute of Technology, and other laboratories in Cambridge. The law extends the federal Animal Welfare Act's anticruelty protection to rodents, birds, and fish, and it requires each research institution to create a committee to oversee animal experiments. It also establishes a commissioner to enforce the ordinance. But the final version was watered down to eliminate a previous requirement that an animal rights representative serve on each institution's oversight committee.

As a result, researchers aren't objecting vociferously—so far. MIT, for instance, already complies with the law. "This just helps the public to know that we're being watched over," says John M. Moses, chairman of MIT's Animal Care Committee. But animal advocates boast that, having won this victory, they will now go after similar regulations in other cities, such as San Francisco, and press for tighter regulations. Says Alfred G. Kildow of the Whitehead Institute for Biomolecular Research: "We see the camel's nose under the tent."

SONY IS MAKING THE 'SWEET SPOT' IN STEREO TVs EVEN SWEETER

Although stereo sound is now standard in most color TVs, it can be hard to hear. That's because the TV speakers are so close together that the "sweet spot," where the stereo effect is most noticeable, is small and close to the screen. But Sony Corp. has fixed that in 11 of its new big-screen TV models

due to hit stores later this summer. These sets feature sound-retrieval system developed by Hughes Aircraft Co. that makes almost any place in front of the TV a sweet spot.

The concept stems from work in the esoteric field of psychoacoustics. Researchers have discovered that the human brain uses different clues to detect the direction from which a sound is coming. With midrange sounds, for example, the key is which ear the sound is more intense. But with high-pitched sounds, the difference in arrival time at each ear is the main clue. To produce a bigger sweet spot, Hughes has developed digital-signal processing chips and separate amplifiers for the left- and right-channel sounds. The chips process each channel differently, so that when the sounds emerge from the speakers, it's easier for your ears to distinguish which is which.

GETTING BACTERIA TO FIGHT BACTERIA—WITHOUT FIGHTING YOU

Fighting fire with fire is nothing new to medicine—it's the key to most vaccines. But vaccines against bacterial infections can be tricky because the usual method involves administering a weakened or altered form of the bacterium. That's supposed to cause only a mild case of the disease you want to prevent, but sometimes it triggers a more severe reaction.

Now, genetic engineers at Rockefeller University and Oregon State University have found a safer technique: splicing genetic information from bacteria into the DNA of a benign carrier virus. It's the first time that a bacterial gene has been grafted onto a virus, according to Dr. Vincent A. Fischetti of Rockefeller University and Dr. Dennis Hruby of Oregon State University.

Their research is aimed at creating a vaccine for streptococcal throat. Left untreated, even a mild infection by streptococcal bacteria can cause rheumatic heart disease or kidney damage. As many as 10 million Americans, most of them children, come down with strep throat each year. Worldwide, the infection kills 52,000 people every year and produces severe side effects in millions of children. While a commercial strep-throat vaccine is being perfected, which could take five years, the same gene splicing technique may be tried for vaccines against other bacterial diseases, including gonorrhea.

AN OIL-BASED PAINT THAT LETS YOU BREATHE EASY

The adage about oil and water not mixing may be all wet. Micro Vesicular Systems Inc. is working on a technique that will combine the best properties of



oil- and water-based paints. The problem with oil paint is that while it sticks to surfaces better than latex paint, it contains volatile chemicals that evaporate and pollute the air as the paint dries. In some urban areas, commercial and industrial uses of oil paints are therefore regulated.

But the next generation of oil paints might be kinder to the air. Researchers at the Nashua (N. H.) subsidiary of ICI Inc. have already produced oil paints with a water base by sealing droplets of oil pigment inside microscopic sacs called liposomes. As the water evaporates, the microsacs rupture, leaving behind a smooth coat of pigment. Micro Vesicular Chairman Edward B. Hager says that a major paint manufacturer has agreed to help develop a line of commercial paints.



By Lee Weinberger
President and CEO
Wausau Insurance Companies

I was delighted to attend a banquet recently that honored Tad

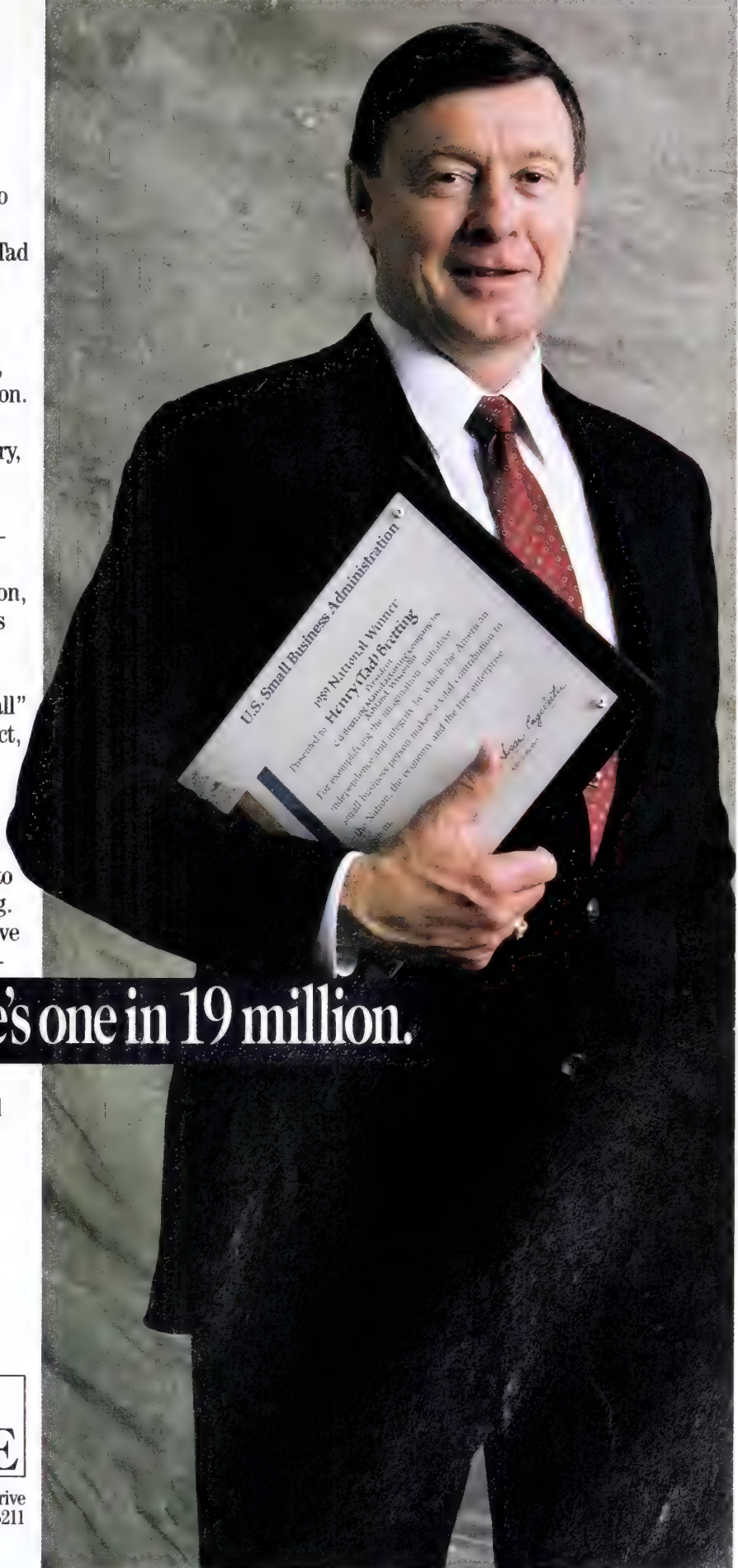
Bretting as America's Small Business Person of the Year.

The award was presented by President Bush and Susan Engeleiter, head of the Small Business Administration. When you consider that there are 19 million small businesses in the country, Tad's was no small accomplishment.

Tad is president of C.G. Bretting Manufacturing Co., a maker of paper-folding and printing equipment in Ashland, Wisconsin. Under his direction, the firm has grown from 11 employees with sales of \$120 thousand, to 260 employees and sales of \$30 million.

This hardly makes Bretting a "small" business to my way of thinking. In fact, Bretting typifies many of Wausau's policyholders — medium to large in size, preferring long term relationships (Bretting's been a Wausau policyholder for 53 years), and committed to their employees' safety and well being.

At Wausau Insurance, we may have a good many larger policyholder com-



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TH, M.D.
S AVENUE

CETUS CARBON-COPIES DNA —AND ROCKS BIOTECH

Its new tool helps everything from AIDS research to zoology

All that remains of the quagga, an extinct cousin of the zebra last seen in southern Africa in the 1800s, are a few musty pelts tucked away in the world's museums. But mention the departed beast to a crack team of Cetus Corp. scientists, and their eyes light up.

Although their expertise lies in cancer and viral research, they have pioneered a technique that can tell scientists volumes about that extinct mammal. "We can take a single DNA molecule from an animal that lived long ago and study its genetic makeup," says John J. Sninsky, who heads diagnostics research at the Emeryville (Calif.) biotech company.

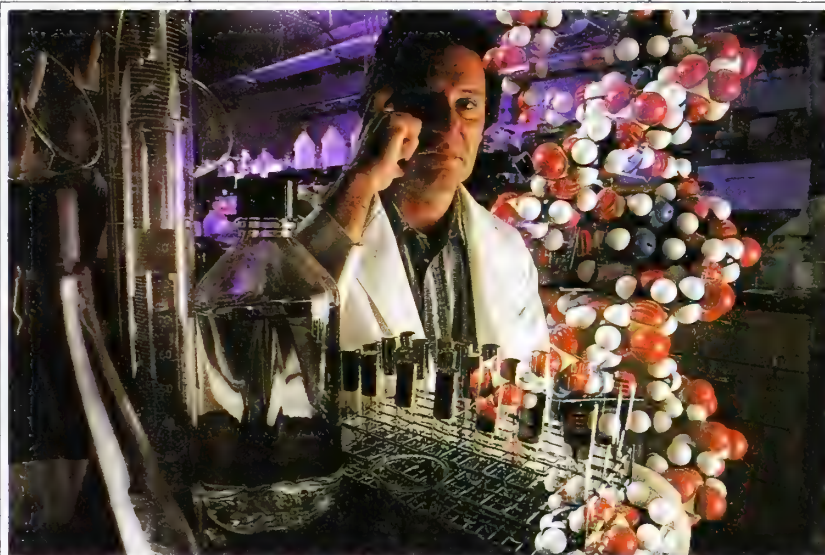
But deciphering the genetics of the long-deceased is only the beginning. Called polymerase chain reaction, or PCR, the technique is a way of creating, in just a few hours, a billion copies of a specific gene. It can find the genetic needle in a haystack by building a haystack of needles. Because this "genetic amplification" can quickly produce large amounts of genetic material for study, its uses range from exonerating crime suspects to discovering new viruses or predicting the odds that sickle-cell anemia carriers will pass along the disease.

SHAKE 'N' BAKE. The PCR process involves pulling apart a strand of DNA with heat. Scientists then add a segment of DNA identical to the one they are seeking. If the segment is present in the sample, adding an enzyme causes it to multiply rapidly. If the sought-after genetic sequence is not present, nothing will happen.

PCR began when former Cetus scientist Kary Mullis, who is now a consultant, was trying to find better ways to study the tiny mutations in certain genes that are suspected of causing cancer. Having

more copies would prove valuable, but the process available was too slow. The idea of using enzymes to produce huge amounts of specific genetic sequences hit Mullis when he was on his way to his weekend retreat in 1983.

Mullis spent the next two days "drawing on every horizontal flat surface in the place." He recalls thinking: "My God, this will totally change molecular biology, so why hasn't anybody thought of it?" On the following Monday morn-



ERLICH WOULD LIKE TO DEVELOP AN EARLY-WARNING SYSTEM FOR GENETIC DISEASES

ing, he set to work. But while he began seeing success immediately, a key problem was that the enzyme he was using to catalyze the reaction was unstable at the temperatures required to cause the DNA strands to split and recombine.

Despite the problems, one Cetus vice-president saw the potential of the technique. He invited two other scientists from Cetus' human genetics program, Henry A. Erlich and Norman Arnheim, now chairman of biological sciences at the University of Southern California, to join the team. Eventually, they came up with a more stable enzyme, obtained from a bacterium called *Thermus aquaticus* that lives in the hot springs of Yellowstone National Park.

Once the new enzyme was available, the procedure became consistent, reliable, and remarkably simple. "It consti-

tuted a revolution within a revolution," says Erlich. In 1987, Cetus signed a deal with scientific-instrument maker Perkin Elmer Corp. to produce a machine that could automate the process.

Most exciting was the brainstorm that PCR unleashed both inside and outside Cetus. Sninsky's expertise as a virologist, for example, quickly suggested to him a key place for PCR in both AIDS research and diagnostics. Because the AIDS virus can hide within cells in a dormant stage, it is nearly impossible to find at that stage with current diagnostic tests. But PCR can find it. Erlich meanwhile, is still studying PCR's applications in the detection of genetic diseases, including sickle-cell anemia, very early in pregnancy.

Zoologists have already become avid users of PCR to study the genetic evolution of species—the relationship, for example, of the woolly mammoth to the modern elephant. Anthropologists have used it to analyze ancient mummies. In PCR is playing an increasingly important role in forensic labs. Scientists are zeroing in on the regions of an individual's DNA that make us all unique. Amplifying telltale regions of a suspect's DNA found in such evidence as blood or hair left at a crime scene can provide virtually absolute identification.

Cetus also has signed a multiyear deal with Eastman-Kodak Co. to sell diagnostic test kits based on PCR, for which it will receive a royalty.

Those systems should be widespread in hospitals by the early 1990s. Cetus expects the market for PCR-based diagnostics to top \$1.5 billion by the year 2000. **'GREAT JOB.'** Scientists who have come anywhere near the technique can't seem to praise it enough, even at Cetus' Berkeley Area biotech rival, Genentech Inc. "They've done a great job with PCR—both the machine and the biology involved," says Timothy A. Stewart, who runs Genentech's effort to implant foreign genes in animals. He uses PCR to see if those genes are picked up.

Indeed, the process is now being put to work in more than 2,000 laboratories at companies and universities. There, it is allowing scientists at the cutting edge of biotech to go forth and multiply as never before.

By Joan O'C. Hamilton in Emeryville

*Mary Brodie won't feel the lump in her breast
for another two years.*



Like a lot of women, Mary Brodie understands the importance of regular breast self-examination. And because she's never felt a lump, she thinks everything is fine. It's the same conclusion a lot of women reach.

Unfortunately, it's wrong.

The tiny tumor that's forming in her breast is too small to feel. But with mammography, it's not too small to see.

And tomorrow Mary is getting her first mammogram. Thanks, in part, to a new x-ray film created by DuPont that makes it safer for women to start

mammography early.

And for Mary, early detection means a two year head start on the rest of her life.

At DuPont, we make the things that make a difference.

Better things for better living.



THE REMAKING OF MERRILL LYNCH

Revenues are rolling in. But can it become a big-time money-maker?

In the spring of 1986, DuWayne J. Peterson, then operations director of Security Pacific National Bank in Los Angeles, was feeling restless. So when an executive recruiter mentioned an opening at a large Wall Street firm, Peterson was all ears. That is, until he heard the name Merrill Lynch & Co. "My God! They're so screwed up, they can't get out of their own way," he screeched at the headhunter. Merrill's top officials were persuasive, though, offering him a \$1 million annual salary and promising him free reign over the huge back office. A few months later, he was ensconced as an executive vice-president overseeing operations for Merrill.

Peterson's initial reaction was by no means unique. Merrill is the Rodney Dangerfield of Wall Street. To its number-crunchers, Merrill is a dud. In one of the Street's great mysteries, no other securities firm can boast such strength and diversity in revenues while having so much trouble bringing them to the bottom line. And with the stock market up about 300 points since January, the firm must come to grips with a question that dogs it: Is there anything that can lift Merrill into the ranks of the big money-makers?

If history is any guide, the answer would seem to be "no." After all, Merrill didn't make very much money in the 1982-87 bull market (chart). But William A. Schreyer, who became chairman in 1985, is transforming Merrill from a somnolent giant into a fierce competitor. Breaking with the Merrill tradition of promoting exclusively from within, Schreyer has reached outside—and beyond Wall Street—to recruit top executive talent. He has unloaded unprofitable and, in retrospect, unrelated businesses such as real estate brokerage. He has built up the Capital Markets Group—trading, underwriting, and merger-and-acquisition work—from an also-ran into a world-class player.

And most important, he has retained a loyal client base. Although stunned investors pulled their money out of the stock market after the crash, they didn't abandon Merrill. Its customers have add-

ed some \$68 billion to their accounts, bringing them to a mind-boggling \$304 billion. Should the stock market defy the slowing economy and induce Merrill's 6 million customers to shift more of their cash into equities, the firm's profits could explode.

If Merrill fired on all cylinders, says analyst Perrin Long of Lipper Analytical Securities Corp., it could earn as much as \$800 million, or \$8 a share. That would be a remarkable accomplishment. The best Merrill could earn in the 1982-87 bull market was \$454 million (adjusted for nonrecurring gains), or \$3.43 share, on revenues of \$9.3 billion in 1986. **CASH CONDUIT.** Such earnings power is what Schreyer has craved since he moved from the presidency of Merrill to the top spot. His game plan is simple: Use Merrill's huge retail operations to sell the new securities generated by a beefed-up investment-banking operation.

The strategy is beginning to work. Surging revenues from investment banking enabled Merrill to get through a tough 1988 in style. The underwriting division alone took in fees of \$570 million, helping bring investment-banking revenues to a boomy \$1.2 billion—more than double the 1984 figure. Merrill's operating earnings came to some \$463 million, of which about \$275 million was brought in by Capital Markets. This success meant that retail commissions accounted for only 40% of Merrill's revenues, down from 80% a few years back. Says Schreyer: "We're not just stockbrokers anymore."

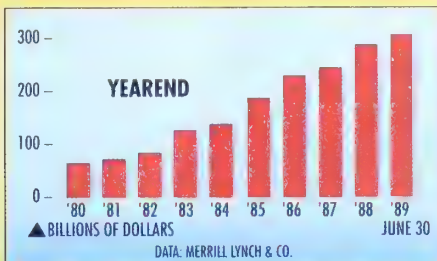
Indeed not. Just ask Salomon Brothers Inc. or the other big investment houses. Merrill has catapulted to No. 1 in underwriting preferred and common stocks, initial public offerings, and debt instruments. In the first half of 1989, Merrill's underwriting totaled \$25.2 billion, for a market share of 18%. That was \$3.4 billion more than a year before, when its share was 14.9%, according to Securities Data Co. As recently as 1985, Merrill was a distant fourth.

The rise delights Merrill brass, of course. "If Rip Van Winkle awoke after two years, and somebody told him we



CHAIRMAN SCHREYER:
"WE'RE NOT JUST
STOCKBROKERS ANYMORE"

CUSTOMER ASSETS AT MERRILL HAVE SOARED...

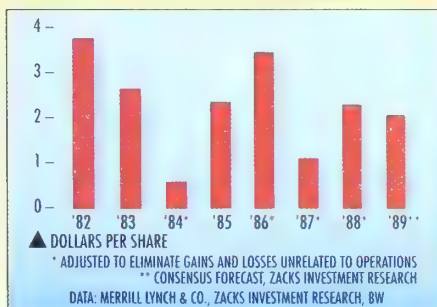


...AND IT'S NO. 1 IN UNDERWRITINGS...

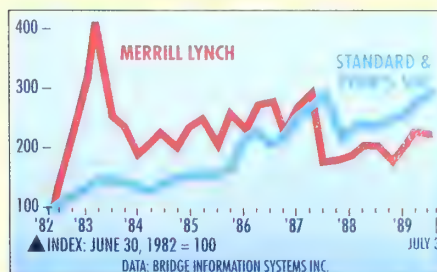
GLOBAL RANKINGS, FIRST HALF 1989	
Underwriter	Billions of dollars
MERRILL LYNCH	25.2
GOLDMAN SACHS	16.9
CREDIT SUISSE-FIRST BOSTON	16.3
SALOMON BROTHERS	15.2
SHEARSON LEHMAN HUTTON	12.5
DREXEL BURNHAM LAMBERT	10.8
MORGAN STANLEY	9.8
BEAR STEARNS	8.0
PRUDENTIAL-BACHE SECURITIES	6.2
KIDDER PEABODY	4.5

DATA: SECURITIES DATA CO.

...BUT EARNINGS ARE ERRATIC...



...AND THE STOCK IS LAGGING



were No. 1 in underwriting, he would say: 'Hey, what are you smoking?' " chuckles President Daniel P. Tully. And Tully isn't shy about needling the competition. "Salomon Brothers says the rankings don't matter now. Don't you believe it, folks," he told executives earlier this year.

Meanwhile, Schreyer is also attacking Merrill's other major weakness—cost control. The firm had been run mainly by free-spending brokers who had little taste for strict cost-cutting programs. On a compounded basis from 1980 to 1985, expenses increased 20.5% annually, while revenues rose only 18.7% a year.

To get help, Schreyer in his first year as CEO wooed Courtney F. Jones away from General Motors Corp. to be his chief financial officer and Richard B. Stewart Jr. from Kidder Peabody Group to be the firm's treasurer. He also imported Security Pacific's Peterson, whose June 6 decision to award a five-year contract to MCI Communications Corp. should cut Merrill's phone costs by more than \$100 million a year. (Jones, eager for more action and a crack at bigger bucks, shifted on June 5 to Merrill's investment-banking department to act as a liaison with clients.)

By reaching out to hire new executives, Schreyer was confirming what many on the Street had suspected: Merrill needed to expand beyond its insular old-boy network of senior managers. To give managers more responsibility for increasing revenues and cutting costs, Schreyer created 18 operating divisions, divided into two main groups. Such divisions as retail brokerage, mutual funds, and insurance services report to John L. Steffens, a 26-year Merrill veteran and chief of the Consumer Markets Group. Corporate finance, merchant banking, and trading report to Jerome P. Kenney, chief of Capital Markets—the "other" Merrill Lynch.

LANDMARK PRODUCT. The other Merrill hasn't grown at the expense of traditional businesses. In a difficult postcrash market last year, Merrill's 11,800 brokers still managed to produce average gross commissions of \$210,000—well above the 1988 industry average of \$191,000, according to the Securities Industry Assn.

Central to Merrill's retail operation is its landmark Cash Management Account (CMA), pioneered in 1977 and since copied by most of its competitors—although much less successfully. Half of the \$304 billion in customer assets is in CMAs, which combine a regular brokerage account with money-market funds, check-writing, and Visa cards—all on one monthly statement. Shearson Lehman Hutton Inc., with nearly as many bro-

kers as Merrill, has about \$170 billion in total customer assets.

While CMAS and money-market accounts aren't big moneymakers, they are hooks that keep customers in the fold. Merrill has never lost its zeal for CMAS. In the first half of 1989, brokers signed up 124,193 new CMAS, up 60% from the year-earlier period. Some of the money is already migrating into stocks. In January, Merrill says it executed orders for customers of \$1 billion a week in stocks. By June, that was up to \$1.3 billion a week. Sales of equity mutual funds are also rising smartly—up 52% since January.

Still, only about 28% of customer assets are in stocks, down from 32% at the height of the last bull market. Says retail chief Steffens: "But remember, even a 1% gain means a lot when you're talking about that much money."

AROUND THE CLOCK. Merrill is also beginning to make headway on its perennial cost problem. Merrill says fixed costs are growing at a yearly rate of 2%, down from their torrid 23% of 1986. The payroll is down to 41,000 from its peak of 47,700 two years ago, branches are down to 482 from 509, and, for 1988, Merrill took 6% across the board off brokers' commissions. Even so, expenses rose to \$9.9 billion in 1988 from about \$8.5 billion in 1986. Building the new Merrill has taken a huge investment in personnel, office space, and trading facilities to make deals and markets around the world, around the clock. But "a lot of the business-development expenses are now behind Merrill," says Brenda D. McCoy, a PaineWebber Inc. analyst.

The pain from cost-cutting can linger, though. Thanks to hefty incentives from New Jersey, Merrill should save \$100 million a year by relocating 2,600 back-office employees from Manhattan to Jersey City—a move that has provoked New York Mayor Edward I. Koch into talking of dumping Merrill as the city's prime bond underwriter.

Merrill-bashers point out that earnings have often been propped up by asset sales or deflated by bookkeeping adjustments. "Not a year goes by without something in the previous year having been restated or prior data being shown differently," says Lipper's Long. And there was little that Merrill could do to boost first-quarter net. Merrill earned

31¢ a share, only half what it made a year before, largely because of sluggish stock-market volume and a sharp downturn in M&A activity. Analysts estimate its earnings at about 50¢ a share in the second quarter, a solid improvement. Yet Merrill's stock has been lagging behind the Standard & Poor's 500-stock index (chart, page 123). At \$28, it still sells below book value of \$32 a share.

Merrill has made some gigantic blunders. In 1984, it joined IBM in a venture to provide financial information to brokers. They expected International Mar-

successfully, which some employees allegedly compounded by hiding trading records in desk drawers. "My Chernobyl," Schreyer calls the event, which may have earned Merrill a dubious place in Wall Street history: the biggest one-day trading loss ever by one firm.

'FORTHRIGHT.' Today, Schreyer says: "It sounds strange, but that may have been the best thing that ever happened to us. You don't know how good you are until you go through a crisis like that. We didn't panic, and we were forthright. From that experience, we were able to handle the market collapse."

Schreyer doesn't mind a little cornball and insists he is "not Pollyanna." Yet this optimism has characterized his 41-year career at Merrill. He has never worked for anyone else, which is extremely rare in an industry where many brokers change their employers as often as their socks.

Schreyer's lifelong ties to Merrill were formed in 1936 when he was eight years old. His father, William I. Schreyer, had just left a local bank to be the Williamspoint (Pa.) branch manager of Granberry & Co., which later became part of Merrill. Other boys of his generation dreamed of growing up to be baseball players or war heroes. Not Schreyer. "In high school, I wrote my senior class paper on the New York Stock Exchange," he says. "By the time I got into college, I knew exactly what I wanted to do. I wanted to come to Merrill Lynch."

He has long been irrepressible. In 1948, his boss, Howard Roth, confronted the rookie broker in Buffalo

"Schreyer, you know what's wrong with you? You talk too damn much." Then, to limit his ebullient young employee's chatter, Roth put an egg timer on Schreyer's desk. "And every time I walked by," Schreyer recalls, "he would turn the egg timer over."

What sets Schreyer apart now is that he doesn't share the relish of so many other Wall Street chieftains for Machiavellian triumphs. Instead, Schreyer dangles lights in his unique reputation as a nice guy. "I'm warm," he says. "If running the firm is like an orchestra, sometimes I'm Spike Jones." Adds Tully: "People think business people have to be hard-driving SOBs. That's not true." That approach has helped in significant, if su-



TULLY: YOU DON'T HAVE TO BE A "HARD-DRIVING SOB" TO BE NO. 1

ketNet—or Imnet, as it was called—to take business away from financial-information leaders such as Quotron Systems Inc. The two companies had hoped to start off strong by selling the hardware to Merrill's then 10,000 brokers. But few signed up, and the project was shelved on Dec. 31, 1986. The embarrassment of "Imnot," as Wall Street dubbed it, still has Schreyer asking: "What the hell was I ever doing selling computer hardware?" Merrill blew only \$25 million on Imnet—not much by Street standards—but it was a sizable PR black eye.

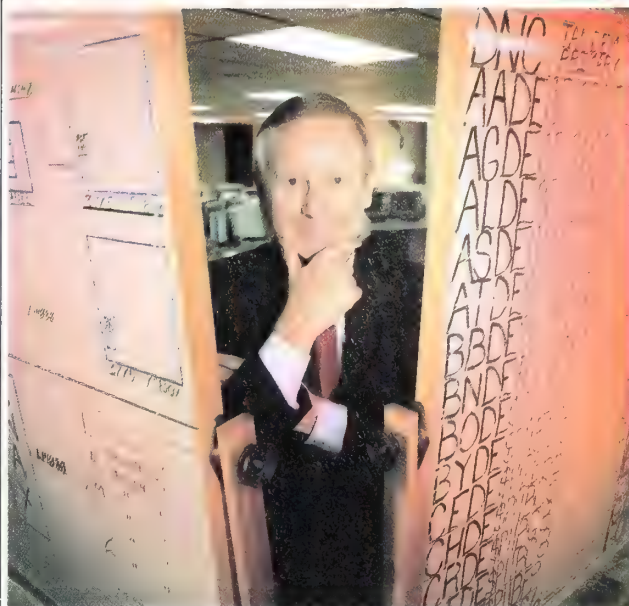
Still, that was a day at the beach compared with Merrill's notorious mortgage-backed securities loss in April, 1987. It dropped \$377 million by speculating on-

le, ways: Merrill hasn't been wracked by executive turmoil and mass exodus.

An ability to expand helps on that score, too. Now, Merrill is looking overseas, and especially to Asia, to widen its investment-banking business. "Corporate restructuring in Asia is going to grow dramatically, along with those countries' real GNP," says Kenney. "India, Korea, and other Asian countries are thinking more globally" and encouraging U.S. dealmakers to set up shop. "One of our top priorities is to do a bigger M&A business in Japan," says Kenney of Capital Markets. "We think the margins on the M&A business in Japan will be very attractive." He expects Merrill to advise Japanese companies on some 20 deals this year.

INCREASE. Merrill is also pouring more money into its European M&A operation. The firm, which now has 10 M&A professionals on the Continent, aims for 20 in a year or so. As companies try to reposition themselves for a barrier-free Europe in 1992, "there will be a big increase in the number of takeovers of European companies," says investment-banking head Barry S. Friedberg.

Merrill's mergers business in the U.S. began to take off when Friedberg came aboard in 1984 after Merrill acquired his former employer, A. G. Becker & Co. At



PETERSON: A NEW PHONE CONTRACT SHOULD SAVE MILLIONS

Merrill, Friedberg takes credit for pioneering the "bridge loan," which enables a client to complete a takeover or leveraged buyout without first lining up permanent financing. He also pushed Merrill into merchant banking, a highly profitable business in which the firm takes equity positions in LBOs. Merrill created a separate merchant-banking unit in November, which now has a staff of 75. This year, Merrill will book a juicy \$90 million for its role in financing the \$25 billion LBO of RJR Nabisco Inc.

Merrill is also moving full blast into

junk bonds. On June 28, it hired Martin S. Fridson, a top analyst in the high-yield market, from Morgan Stanley & Co., to oversee product development. In May, it was a joint underwriter with Drexel in RJR Nabisco's \$4 billion junk issue. Buoyed by that triumph, Merrill plans to add about 20 professionals to its junk-bond crew. It's also looking for office space in, of all places, Beverly Hills, the site of Drexel's junk-bond empire.

Ultimately, Schreyer's best hope for turning Merrill into a money machine lies in a robust stock market. On May 19, chief investment officer Charles I. Clough called for investors—retail and institutional alike—to shift the equity in their portfolios from 40% to 45%.

All of this has Schreyer even more excited than usual about his firm's prospects. "I really believe that sometime soon you're going to see the bond market fuel an incredible equities rally," he says. Interest rates will drop enough, he says, to trigger more enthusiasm for stocks. "And when that happens, we're going to make a ton of money." That would be fine, as long as he remembers that Merrill must bring the bonanza down to the bottom line. If it can pull that off, it may finally get its fair share of respect on Wall Street.

By Jon Friedman in New York

MONEY & BANKING

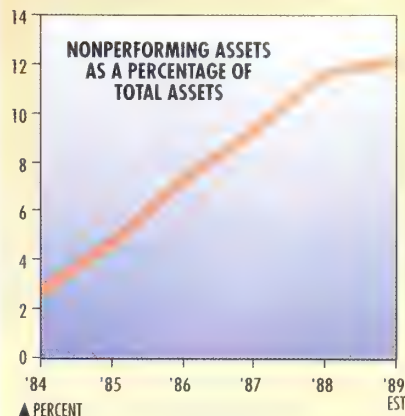
IT'S BACK TO SQUARE 2 FOR TEXAS COMMERCE

A failed bid for MCorp banks keeps it in second place in Texas

It had been a long, grueling day for Ben F. Love, chairman of Texas Commerce Bancshares Inc. Up for grabs was one of the biggest prizes in Texas banking history, the 20 banks formerly owned by MCorp. Love had been in the phone all day with his Washington contacts, trying to find out whether he or one of five other bidders had won. The answer didn't come until evening, when he got home and found the phone ringing. On the other end was his boss, Chairman Walter V. Shipley of New York's Chemical Banking Corp., which acquired TCB in 1987. "Banc One got it," said Shipley. Love took the news calmly. It's disappointing," he said. "But we're not going to live or die by it."

Brave words. But the loss was a sting-

THE RISE IN SOUR LOANS AT TEXAS COMMERCE



ing blow to Love and Houston-based TCB. Since the Federal Deposit Insurance Corp. put MCorp's insolvent banks on the block in March, Love had put on a full court press to take it. The former fighter pilot formed a task force of some of his top executives and committed—by his own rueful tally—7,000 hours of staff time to the losing cause. Had he won the contest for MCorp's failed banks, with their \$13.1 billion in assets, TCB would have been the largest bank in Texas. (An FDIC source says the agency was leery of giving MCorp to any bidder that might end up reducing competition in the state.) Instead, Texas Commerce remains No. 2, facing a fierce new competitor and a more uncertain future.

CHEMICAL REACTION. A triumph also would have taken the heat off Chemical. Like other money-center banks, it's still not out of the woods when it comes to Third World debt. Yet Shipley was anxious to secure a beachhead in Texas and moved swiftly when TCB came up for sale two years ago. Massive federal bank-takeover subsidies had yet to materialize, so Chemical shelled out \$1.19 billion of its own. Wall Street has been edgy about Chemical ever since. At around 36, its stock is trading at only 3.1

times earnings, compared with an average price-earnings ratio of 5 for other money-center banks. Says analyst Christopher Kotowski of Oppenheimer & Co.: "When it comes to Chemical, you worry about debt and Texas Commerce."

Indeed, the sweet deal won by Banc One has reinforced the view that Chemical acted too hastily in buying TCB. Banc One, a highly profitable company based in Columbus, Ohio (BW—July 3), will pay only about \$500 million over the next five years to pick up MCorp's Texas franchise, with the FDIC agreeing to cov-

collapse of real estate prices and a tidal wave of problem loans engulfed the Texas banking industry. Love knew he needed a partner with deep pockets to reassure his institutional depositors. So he turned to Shipley, a friend for more than 20 years. (Shipley used to call on Love when drumming up business for Chemical, and Love once tried to hire him away.) Shipley, he knew, was a banker eager to expand his market.

So far, Chemical has let Love run his own show. There have been no cash infusions. And aside from two executives

more than \$200 million in foreclosed properties while writing off more than \$300 million worth of nonperforming loans. But while the bad loans may have peaked last year—the total has since come down by \$200 million—TCB will have to do a lot better.

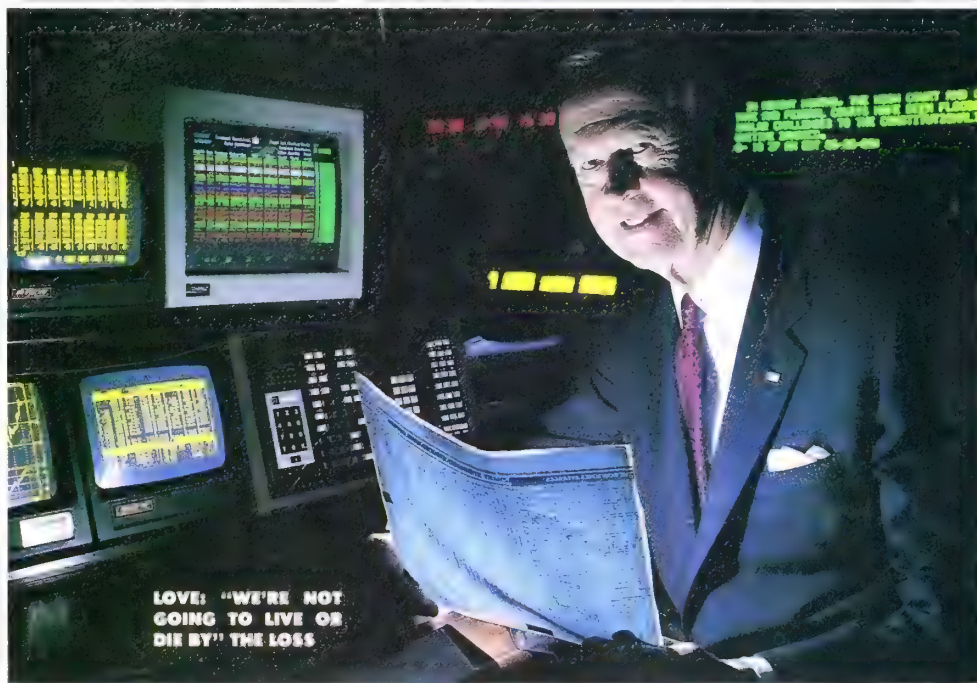
That's a tall order. Real estate accounts for nearly 80% of TCB's bad loans. But the Texas market is depressed. And it could get worse. The FDIC is seizing billions of dollars of Texas real estate once owned by insolvent thrifts. The agency, some analysts fear, could dump the property wholesale, depressing values further. The FDIC says it won't, but "it's a gigantic shoe and no one knows when—or if—it'll fall," says William E. Gibson, chairman of American Federal Bank in Dallas.

GOING RETAIL. To improve the odds of a recovery, Love is overhauling the way TCB does business. For starters, he's pushing into fields outside its traditional domain, such as cash management, stock trading, and investment banking. With 82 branches statewide, retail banking is another area that Love believes has potential. TCB has borrowed some consumer-product ideas from its parent, modeling the "One-Plus" service after ChemPlus, with its free checking, attractive credit terms, and a single monthly statement. Last year, the program brought in 80,000 new accounts, helping boost deposits 4%, to \$14.8 billion.

Even without MCorp's banks, which would have broadened his slender market share in Dallas and other key areas, Love believes TCB will make a modest profit in the September quarter, continuing tax benefits aside. But analysts still believe it's too early to declare TCB's troubles over. The improvement in the Texas economy is spotty at best, and new business is hard to come by, noting that companies are preoccupied with trimming debt. At the same time, TCB must compete in the stagnant market with not only Banc One but also North Carolina's feisty NCB Corp., which purchased RepublicBank of Dallas a year ago and still retains \$3 billion in federal tax-loss credits as part of the deal.

Still, no one is about to question TCB's survival. Its roots run deep in Texas and analysts applaud the changes Love has introduced. But it will be a while before TCB recaptures its former glory—and the big payoff for Chemical may be years away.

By Mark Ivey in Houston, with John Meehan in New York



LOVE: "WE'RE NOT GOING TO LIVE OR DIE BY" THE LOSS

er losses on bad loans. This could add up to about \$2 billion, making it the FDIC's second most expensive bank bailout. As for Banc One, says Chairman John B. McCoy: "We believe on Day One we're going to make money."

The same can't be said for TCB. Its loans amounted to \$9.6 billion at the end of the first quarter, a steep 25% below the 1986 total. Moreover, almost \$1.2 billion of them were bad loans, double the total in 1986. After losing \$120.3 million in 1987, TCB climbed out of the red with a slim \$2.1 million profit last year—but only after its New York parent turned over almost \$40 million in tax benefits.

DRY WELL. TCB wasn't always a laggard. A decade ago, it boomed along with oil prices. Loans and deposits grew at a rapid pace, propelling TCB into the major leagues of regional banks and establishing Love as one of the most powerful figures in Texas. By 1984, it was one of only two U.S. banks with an AAA credit rating. Morgan Guaranty Trust Co. was the other.

Then came the oil bust. The ensuing

sent to run the consumer banking and trading departments, there has been no overt meddling from New York. Wall Street is speculating that this arm's-length relationship may change when Love turns 65 and retires this November. But Shipley, through a spokeswoman, says TCB is making "good progress" in building market share and reducing bad loans. Besides, he says, "we expect to see higher earnings as the state's economy strengthens." As it stands now, Marc J. Shapiro, TCB's 42-year-old vice-chairman, is Love's likely successor.

Certainly, Love is working feverishly to upgrade TCB's loan portfolio. Since the start of 1987, the bank has sold off

The setback is also a blow for parent company Chemical, still burdened with Third World debt



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THE MARV THRONEBERRYS OF MUTUAL FUNDS GET A HIT

44 Wall Street's funds are paying off after an eight-year slump

If the 44 Wall Street mutual funds had a motto, it would probably be: "Anything for a quiet life." While most of their peers have languished in obscurity, this pair of equity funds has achieved a kind of backhanded fame, regularly ridiculed by industry pundits and the financial press because of their years of bottom-of-the-barrel performance. Well, it seems that the spotlight will have to shine elsewhere. The 44 Wall Street Fund and sibling 44 Wall Street Equity Fund have pulled off a stunning achievement—they are actually making money for their shareholders.

The numbers speak for themselves. In 1988, the Equity Fund rose 32.3%, double the gain in the Standard & Poor's 500-stock index—the first above-par year in the fund's eight-year history. Meanwhile, its 21-year-old kin posted a gain of 19.3%, beating the market for the first time since 1980. The funds are lagging the market's 15.4% gain this year, by 5.4 points for 44 Wall and 0.9 points for Equity. But the era of miserable performance seems to be over: No longer do the funds make risky, leveraged investments in high-technology stocks. "We're not looking at emerging growth companies, initial public offerings, or startups," asserts Mark D. Beckerman, the funds' new portfolio manager.

ALBATROSS. Only a year ago, it seemed that the funds had reached their lowest ebb. In 1987, the 44 Wall fund dropped 35%, the equity fund plummeted 42%, and management was under investigation by the Securities & Exchange Commission. In April, 1988, longtime portfolio manager David H. Baker Jr. resigned in settlement of SEC charges that he mishandled a customer account (he neither admitted nor denied the charges). Baker was replaced by Beckerman, now 26, a stockbroker who had no previous experience operating a mutual fund. Beckerman

had been an analyst with a small investment banking firm, Hallwood Group, and had started his own brokerage in 1987 as a way of getting into money management. He saw opportunity—44 Wall's well-publicized troubles—and he took it, contacting Baker and buying the investment advisory contract for \$250,000. That was paid to the 44 Wall



BECKERMAN AND DEVLIN: TRADING RISKY STOCKS FOR BLUE CHIPS

fund, which was owed that sum by Baker as part of the SEC settlement. The terms were liberal: Just \$50,000 in cash, the rest in foregone management fees.

In his year at the helm, Beckerman has sold off virtually all of Baker's stocks, replacing them with blue chips such as Loews and solid growth stocks such as General Cinema and Bull & Bear Group. Alas, Beckerman has had to grapple with a persistent albatross—enormous expenses. For the equity fund,

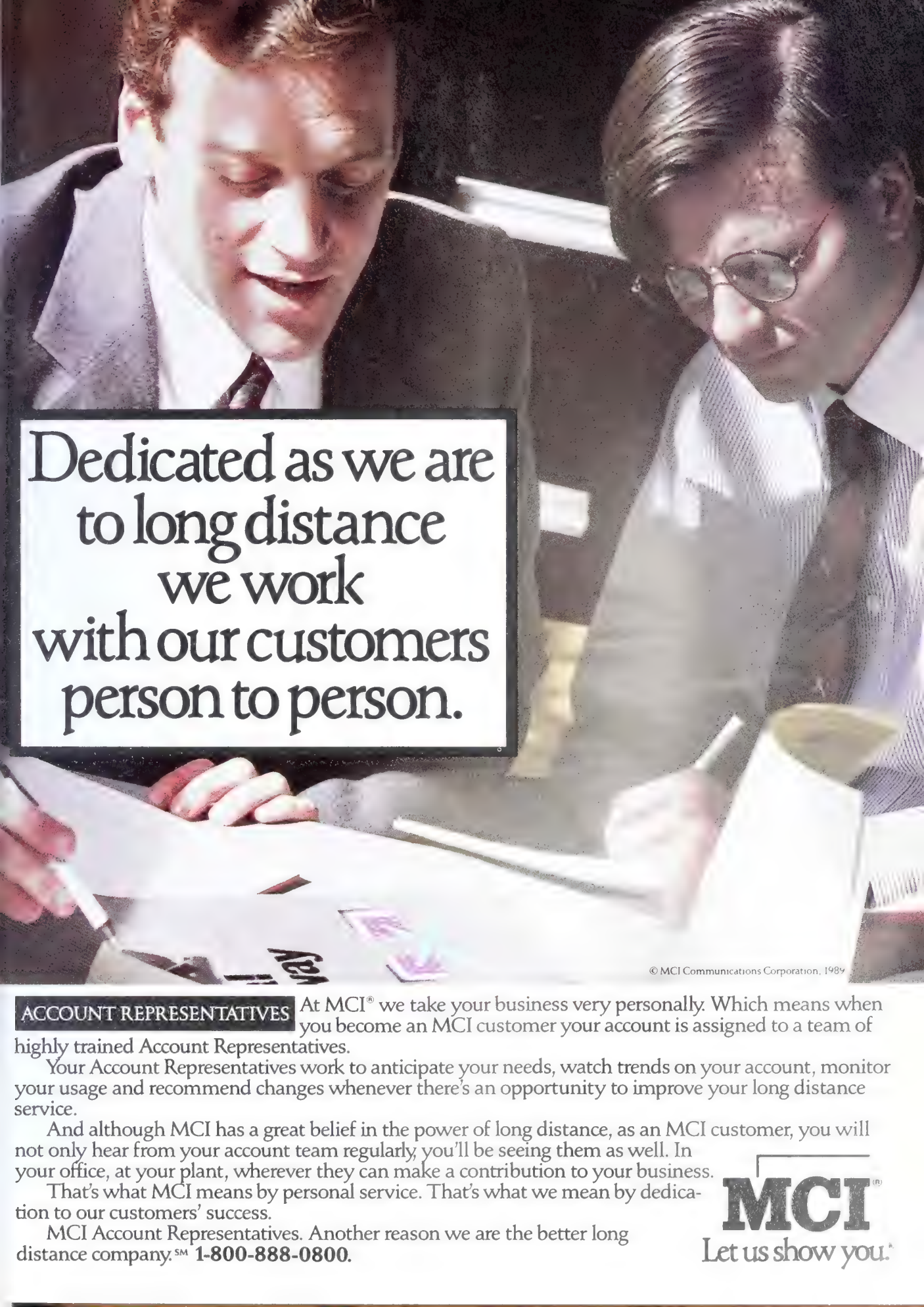
the ratio of operating expenses to average net assets was a huge 6.4% as last January, while the 44 Wall fund expense ratio was an astronomical 14%. That means it must gain 14% just to break even. "Anything over 2½% is total disaster," observes Sheldon Jacobson, editor of the *No Load Fund Investor*.

One reason for the expense-ratio fiasco is the comparatively tiny size of the funds: \$7 million for 44 Wall and \$4 million for the equity fund. Also, the funds have had an unusually large number of small investors—many of whom began as big investors. "We have lots of shareholders who paid upwards of \$28 a share for the Wall fund, and now the price is \$2.70," notes Brian T. Devlin, the funds' national sales manager. Devlin says the number of small shareholders has dropped from 1,000 to 200, out of a total of 5,800.

BITTER SUITE. Another legacy of the Baker era has contributed to the 44 Wall fund's humorous expense ratio: The fund is the tenant of a \$15,000-a-month suite of offices in lower Manhattan. Under the lease, the fund is responsible for the rent through 1991, and is being sued by the landlord—who claims the rent has been unpaid since December, 1987. The fund has long been quartered in a cramped \$1,000-a-month office leased from a brokerage house, but meanwhile, Beckerman must set aside the unpaid rent pending a hoped-for settlement of the suit. If another tenant can be found, Beckerman says the accrued rent will go to the landlord and the fund's monthly expenses will drop dramatically.

Actually, not every aspect of Baker's management was a total failure. Some years back, he bought for the equity fund shares in Victor Technologies, a computer company that went bankrupt. But the settlement of a class action suit against Victor should net the fund some \$300,000, according to Beckerman. And then there are the \$85 million in tax-loss carryforwards that have accrued from 44 Wall's years in the doghouse. They can offset any capital gains realized by the fund, shielding shareholders from taxation. True, there's no way more than a fraction of those carryforwards can be put to any use by such a tiny fund. But there's this much consolation: Now there's finally something to shelter.

By Gary Weiss in New York

A black and white photograph of two men in business suits. The man on the left is looking down at a document, while the man on the right, wearing glasses, is also looking at the document and holding a pen. They appear to be in a professional setting, possibly an office or a meeting room.

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BY GENE G. MARCIAL

HONEYWELL AND GE MAY BE THINKING OF MESHING GEARS

Takeover rumors have dogged Honeywell for more than a year now, so in mid-May, when a couple of big investors defeated management's proposed antitakeover measures, it looked as though the company was ripe for a raid. But when no bids came, the stock started slipping—from the year's high of 80¼ to 73. Don't be fooled, though—the play for Honeywell may be just starting.

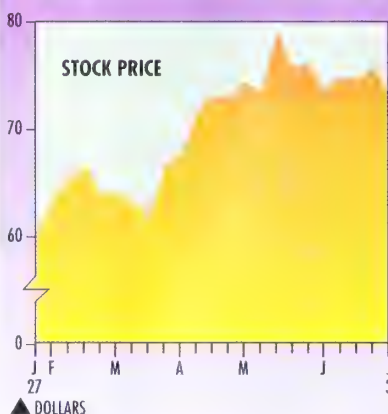
The latest whisper: General Electric, long rumored to be eyeballing Honeywell, may be ready to spring a friendly acquisition offer for the maker of automation and control systems. Officials of Honeywell couldn't be reached, and General Electric declined comment. But several smart-money investors believe that GE will make a bid not far from Honeywell's estimated private-market, or breakup, value of \$130 a share.

Some pros think Honeywell is worth even more. New York investment adviser Arnold Schneidler, who has been buying Honeywell, puts the company's worth at \$152 a share.

Here's how he values Honeywell's operations, based on cash flow and revenues: Home and other building automation and controls, \$56.68 a share; industrial automation and controls, \$32.48; space and aviation systems, \$29.88; defense and marine systems, \$22.85; other operations, \$6.44; and investments, \$12. The total, after deducting debt of about \$8.40 a share: \$151.93. At that level, Honeywell would cost about \$6.5 billion. GE is one industrial biggie that is flush with cash and known to be looking for acquisitions.

SHAREHOLDER STRENGTH. Schneidler believes that part of the pressure on Honeywell is coming from two of its big shareholders, Richard Rainwater, a former investment strategist for the Bass Brothers of Texas, and Robert Monks, who led the fight against the antitakeover measures that were defeated at the annual shareholders' meeting in May. They have urged Honeywell to undergo a major restructuring, including the sale of some assets and a repurchase of shares. There is the possibility that the Rainwater group will lead a fight for control if they are not satisfied, says Schneid-

HONEYWELL'S STOCK: OFF ITS HIGH



DATA: BRIDGE INFORMATION SYSTEMS INC

ler. Rainwater declined to comment.

One big New York takeover investor thinks a GE-Honeywell combination would be an ideal match. Honeywell's automation and control divisions—as well as its space and aircraft operations—would fit well within GE's three major businesses: technology, which includes aircraft engines and factory automation; manufacturing, including turbines and electrical equipment; and services, such as communications and broadcasting. Last week, Honeywell announced that it will sell its semiconductor operations—after cutting some 150 jobs at its semiconductor facility. One analyst believes the sale is part of plans to combine the company with GE.

IS MESA AIRLINES FACING A DOGFIGHT?

Compared with NWA, Mesa Airlines is minuscule, but a brewing takeover fight for the tiny regional airline promises to be as heated as the battle for Northwest. Here's the story: Another small regional commuter airline, StatesWest Airlines, has taken a 7.25% stake in Mesa, and whispers are that it wants more.

Never mind that Farmington (N. M.)-based Mesa is a bigger company in terms of revenues—\$17.5 million last year, with \$21 million expected for this year. StatesWest's revenues totaled just \$6 million last year. But Rudy Miller, StatesWest's chairman, president, and CEO, is expected to boost its stake in Mesa anyway. Last week, Phoenix-based StatesWest raised about \$6.1 million by allowing some warrant-holders to buy new equity. Mesa has 16

prop-jet aircraft serving 25 cities in five Southwestern states. StatesWest has four prop-jet airplanes serving five niche markets from Phoenix, including San Diego, Burbank, California's Orange County, and Laughlin, Nev.

Mesa Chairman Larry Risley insists that the company isn't for sale and that Miller hasn't contacted him. But one big investor says the investment bank that Miller is using approached Risley about a possible deal and was rebuffed.

Miller declines to comment about his plans. Some pros figure the takeover value of Mesa, now trading at \$6 a share, to be at least \$10. Mesa rose as high as 11 within weeks after its initial offering of 7 in 1987. StatesWest is trading at 1½.

QUIET TALK ABOUT A TAMPON MAKER

Shares of Tambrands, whose leading product, Tampax, accounts for 60% of the domestic tampon market, have been in a downturn since May. After hitting a high of 67½ earlier this year, the stock has slid to around 60. One big disappointment: Rumors of a takeover have remained just that, since no one has made a 13D filing to report a 5% stake.

But even as arbitrageurs bailed out some savvy money managers started taking advantage of the stock's fall and they have been buying. The pros believe that an influential corporate raider who holds 3% of the stock will finally surface and raise his stake to 5% or more. This raider has indicated that he might try to gain control, since he believes a European drug company is interested in Tambrands.

On June 28, probably in response to such new whispers, Tambrands' board authorized the repurchase of 1.2 million shares, or 5% of the 22.3 million shares outstanding. The company also announced that it might sell one or both of its subsidiaries—the cosmetics unit and the Hygeia Sciences division, which makes home pregnancy-testing kits. One money manager who has been buying, Walt Grossman, a managing partner at Moore, Grossman & deRose, says that based on cash flow alone, Tambrands is worth \$75 to \$85 a share. Adding the value of the Tampax brand's worldwide recognition, he says, could make the company worth as much as \$90 a share on a takeover basis. Management owns only about 1.4% of the stock.

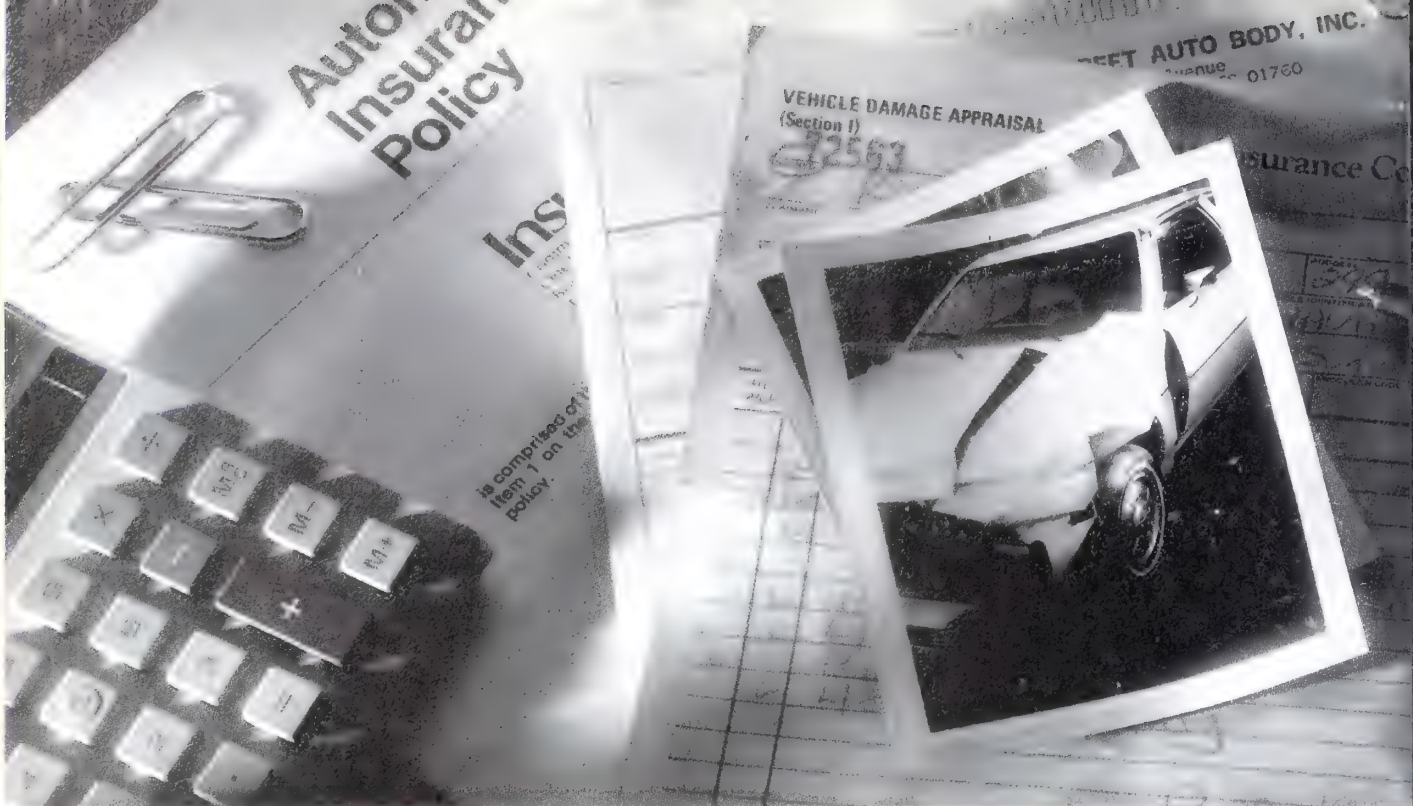


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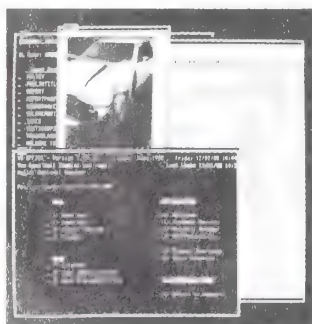




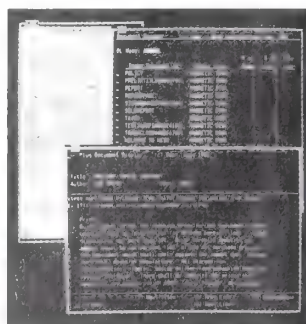
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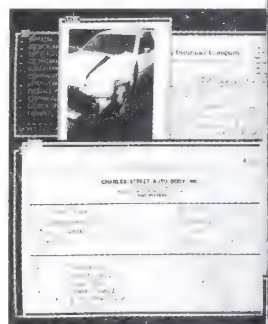
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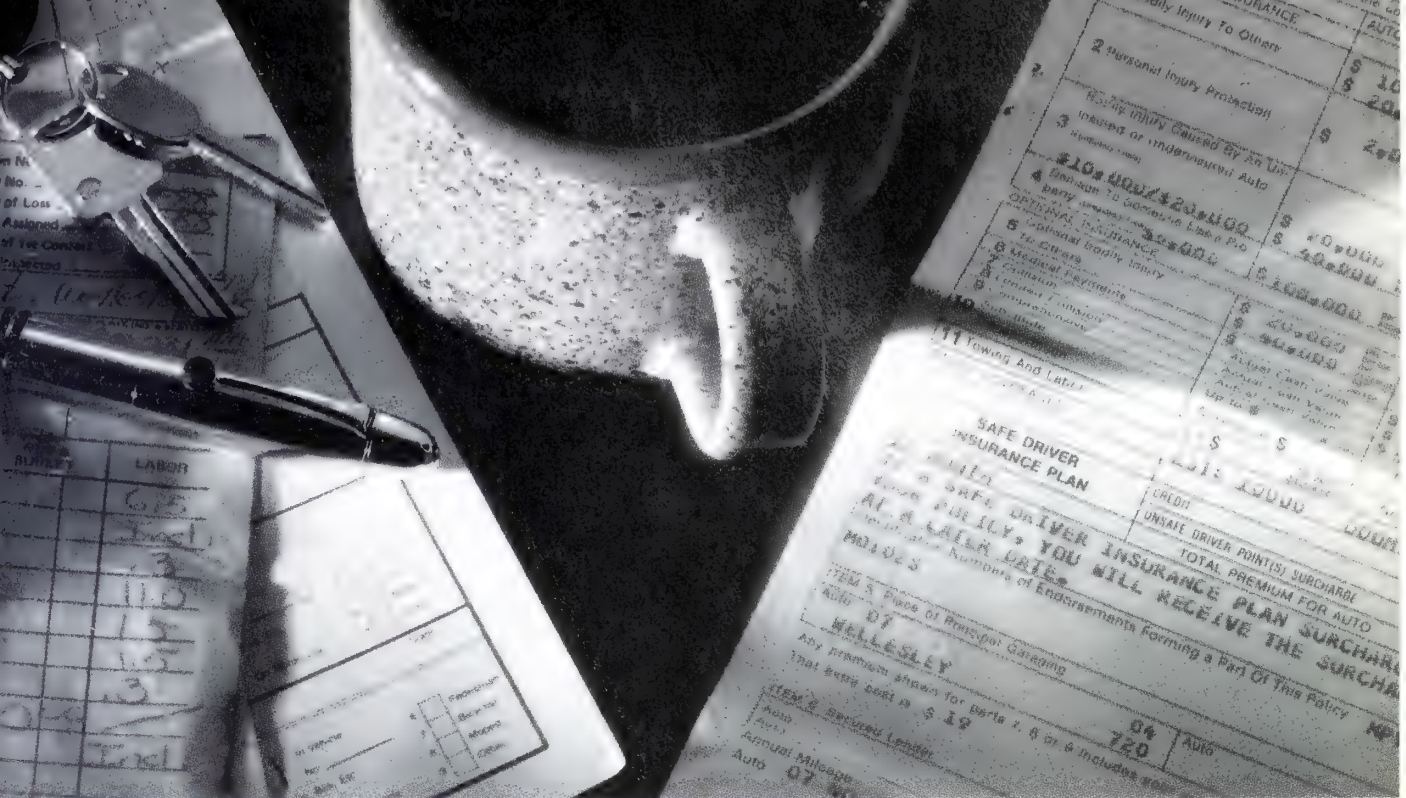
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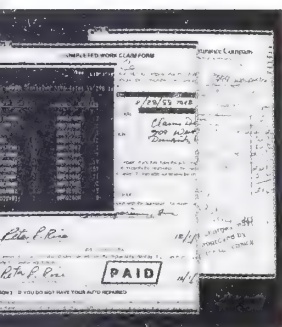
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THE POWER SURGE AT COMPUTER DEALERS

Why IBM, Apple, and the gang need retailers more than ever

Rick Inatome is one happy computer dealer. Earlier this year, IBM approached him with an unprecedented offer. Inacomp Computer Centers Inc., Inatome's \$350 million chain of 102 personal computer dealerships, would get up to three IBM dealership authorizations—worth up to \$500,000 each, if you can find them—free. All he had to do was agree that the only PCs his new stores will sell will be IBM's. Last month the deal was sealed. If the approach works, IBM says it will sign up more dealers.

Time was, about five years ago, when computer dealerships were merely one outlet for computer makers, which sold about 40% of their PCs directly to customers. Today, some 84% of all PCs are sold through dealers. This pronounced shift is altering the relationship between computer makers and resellers. "Vendors need the dealers as never before," says Patrice W. Johnson, director of marketing and sales at IMS America Ltd., a Plymouth Meeting (Pa.) market researcher. And even major manufacturers such as IBM, Apple, and Compaq are starting to acknowledge that.

BOOSTING PROFITS. PC dealers have more alternatives than ever to choose from. "Because they have so many more options, they're more sensitive to the quality of the manufacturers with whom they do business," says John J. Rice, owner of an Entre Computer Center Inc. store in Annapolis, Md. "If you want us to carry your product, you'll have to do things for me that will make me more successful," he adds. JoeAnn Stahel, president of market researcher Storeboard Inc. concurs: "Before, dealers asked what they could do for the manufacturers," she says. "Now, they're asking what the manufacturers can do for them."

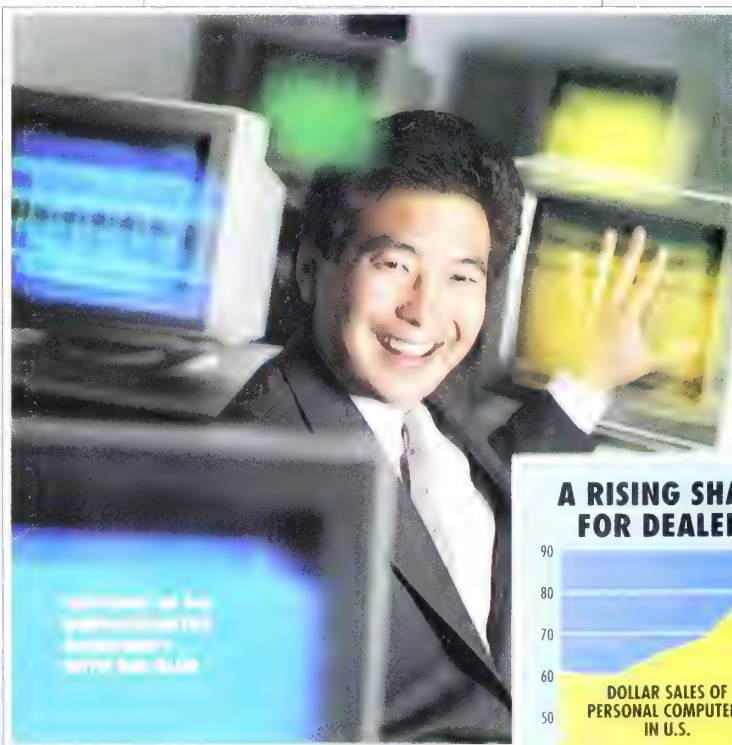
IBM is doing a lot. From 1986 to 1988, Big Blue's dollar share of U.S. PC sales fell from 30.6% to 20.3%, according to market researcher International Data Corp. in Framingham, Mass. In part, that happened because Big Blue based its discounts to dealers on whether they met certain quotas for unit sales. This flooded the market with IBM machines, leading to price wars that alienated dealers, prompting them to push more prof-

phisticated PCs or help corporation learn to network them.

Dealers submit their business plan and then negotiate with the company for these so-called soft-dollar programs. The programs are based on mutually agreed upon objectives and not, according to IBM, on how many IBM machines a dealer moves. They are, however, designed in proportion to the size and business needs of each dealership, says an IBM spokesperson. For instance, a ComputerLand will have a more complex business plan than a smaller organization. "It's in our own best interest to do the type of things that will make [our dealers] successful," says William E. McCracken, vice-president at IBM's National Distribution Div. The company has a lot at stake. Up to 85% of its PCs are sold by dealers vs. 75% in 1987.

IBM is not the only personal computer maker pumping more money into better dealer support. This year Compaq Computer Corp. expects to double the amount of money it distributes through its program called Salespaq. Apple Computer Inc. says that the number of systems engineers and training activities in its dealer channels has more than quadrupled in the past year, thanks to its Earned Investment Program. Epson America Inc. is spending more than \$20 million this year on its program, called Epson Plan, at least twice its highest previous expenditure. And this year, NEC Home Electronics (USA) Inc. plans to double its market development spending.

Does all this money pay off? Yes, says James M. Ciccarelli, vice president of marketing at Connecticut Point of America Inc., a 260-store franchise operation. Dealers that use the funds well by offsetting operating expenses, he says, can double their net profit margins, to 5% or 6%. Kathleen Schaub, marketing manager at Infomax Inc., a northern California ComputerLand franchisee, adds that this year soft dollars have paid for a computer-aided-design showroom in her downtown San Francisco store. Reimbursements from Apple and Com-



itable machines from other manufacturers. IBM abolished its quota system late last year. And this year, it presented its 1,900 dealers with a Flexible Funds Program aimed at both selling more IBM machines and helping resellers boost their single-digit profit margins.

IBM no longer relies simply on giving discounts. Instead, the company pays for anything from a special promotion to customer seminars to the salaries of employees designated to sell IBM products. Usually, the idea is to help dealers teach customers how to use increasingly so-

aq help pay the salaries of two CAD specialists and defray the costs of keeping more than \$70,000 worth of demonstration equipment on the floor. "They're things we would do anyway," she says. "Now, we are getting rewarded for it."

The manufacturers are being rewarded as well. James W. Weil, an analyst with SoundView Financial Group in Stamford, Conn., says that IBM's eroding market share has begun to stabilize or even turn up. He attributes this almost entirely to the company's recent marketing programs.

RAISING THE ANTE. Soft-dollar programs don't work perfectly, though. Critics such as Seymour Merrin, president of Merrin Information Services Inc. in Palo Alto, Calif., worry that some dealers use their funds simply to discount prices, which is exactly what market development funds were intended to avoid. Others argue that these partnerships tend to make dealers more dependent on computer makers. What's more, says Merrin, PC makers are always going to try to match what their competitors are offering, "like two stubborn poker players calling and raising each other." That ups the ante for second-tier manufacturers who have less money with which to compete.

Most threatening to the programs is the partiality that can creep in, observes a PC analyst at a New York investment bank. Manufacturers can "play more games" than with straight discounts, he says.

That was the case in February, when Compaq withdrew its machines from Businessland Inc. The retailer demanded that the Houston-based computer maker provide the same treatment that IBM was providing. That included, among other things, bigger discounts. With the extra money, Businessland was to offset such things as advertising expenses and larger commissions on IBM products. Not so surprisingly, Businessland soon became very vocal in endorsing IBM's micro channel personal computers over other PCs. Compaq pulled out of Businessland even though its sales through the chain accounted for 7% of its revenues, thereby making an important point: Dealers can only apply so much pressure before the manufacturers will tell them to go take a walk," says John A. Murphy, a senior consultant at Wohl Associates Inc. in Bala-Cynwyd, Pa.

Still, retailers and manufacturers obviously need each other to prosper. And as long as that's true, marriages of convenience are likely to continue. Says Richard C. Rose, president of Dataflex Corp., "it's become a lot more than just handling products. We've become partners."

By Susan M. Gelfond in New York, with Maria Shao in San Francisco

SOFTWARE

dBUGS IN dBASE IV SPREAD TO THE BOTTOM LINE

Ashton-Tate is scrambling to recover from the program's flop



ESBER SAYS IF THE CORRECTED dBASE IV "AIN'T READY BY FALL, WE AIN'T SHIPPING IT"

Last spring, Edward M. Esber Jr. mapped out a month-long sabbatical for July. The 37-year-old chairman of Ashton-Tate Inc. planned to hang around his Santa Monica (Calif.) home taking saxophone lessons, losing a little weight, and playing with his two kids. He may lose weight, all right, but for a different reason. Ashton-Tate has stumbled badly, and Esber will spend July at his desk, trying to extract his company from a financial crisis that will shove it into the red for the first time in its nine-year history.

The bad news came suddenly. Last October, the Torrance (Calif.) company released dBase IV, the latest version of its flagship PC data-base program that's used for record-keeping. With aggressive price promotion, Ashton-Tate prompted distributors to take 300,000 copies of the \$795 product. Esber knew from periodic checks that dBase IV wasn't meeting expectations. But it wasn't until June 12 that a phone survey turned up precise numbers. The news was bad. Distributors had sold only half of the packages they had ordered, estimates market researcher International

Data Corp. And they weren't buying more.

By then, Ashton-Tate's warehouses had \$26.8 million in inventory that may never be sold. It seems dBase IV has done poorly because its 450,000 lines of code contain as many as 100 bugs, say outside developers. Ashton-Tate says the

glitches number 44. Still, the flaws make functions such as file-sorting worthless. "This program is nothing but a stick-up," says Denis Bellemare, a Montreal immigration lawyer and dBase IV buyer. "It's so bug-ridden I can't use it."

So on June 13, Esber announced that the company expected a second-quarter loss of \$15 million—including a charge of

\$8 million, reflecting the discontinuation of a line of graphics software. Revenues will be a disappointment, too: about \$55 million, down from the first quarter's \$89.8 million. The third quarter's outlook is only a bit better. Analysts expect a \$3 million loss, vs. a profit of \$11.7 million in the year-earlier third quarter. "This was a shocker," says Kidder, Peabody & Co. analyst Bahar Gidwani. Ashton-Tate's stock, which traded as high as 30

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last winter, lately has been hovering around 17.

To avoid such surprises in the future Esber is making several changes. For one thing, Ashton-Tate will quit booting deliveries to distributors as sales. Instead, it will count only sales to consumers.

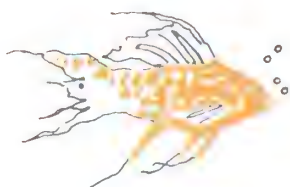
Esber is also improving product development. Until recently, Ashton-Tate engineers hunted for bugs after the entire program was written. With dBase IV that was complicated by an unwieldy development crew of 75. Because of the pressure to get the program to distributors, the lethal bugs slipped through. Now, says Ashton-Tate President Luther Nussbaum, code is checked throughout the process, as individual sections of the program are developed to avoid the crash debugging that was done for dBase IV.

Just how well the fix works will be clear when the company delivers an upgrade of dBase IV, probably this fall. But Esber says that he won't compound the company's mistakes by shipping the product before it has been properly vetted: "If it ain't ready by fall, we ain't shipping it."

DATA TRADING. Esber also wants to expand the company's customer base so that problems with one product don't lead to financial disasters. By the end of 1990, he wants to have ready an easy-to-use version of dBase for the 80% of PC owners who shy away from the complexity of dBase IV, with its 14 disks. By 1991, he hopes to launch "Ashton-Tate Office," software that will use a version of dBase to trade information with other Ashton-Tate products and even outside software packages, such as spreadsheets and word processors. To cut its reliance on dBase—now 75% of its sales—Ashton-Tate will also step up marketing for its word processing spreadsheet, and graphics programs. For instance, it will develop versions of its Macintosh word processing software FullWrite Professional, for IBM PCs and compatibles.

Still, analysts are less than impressed. "It's an elegant strategy, but Ashton-Tate's competitors are pursuing it, too," says Richard G. Sherlund, an analyst with Goldman, Sachs & Co. For now, even the normally jovial Esber is restrained. Critics have long said the company lacks the technical vision to hold on to its No. 3 ranking in PC software, behind Microsoft Corp. and Lotus Development Corp. The naysayers were supposed to be proven wrong by dBase IV. But now that will have to wait for Ashton-Tate's next product. And that adds up to a long summer for Ed Esber.

By Patrick E. Cole in Torrance, Calif.



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MegaChip

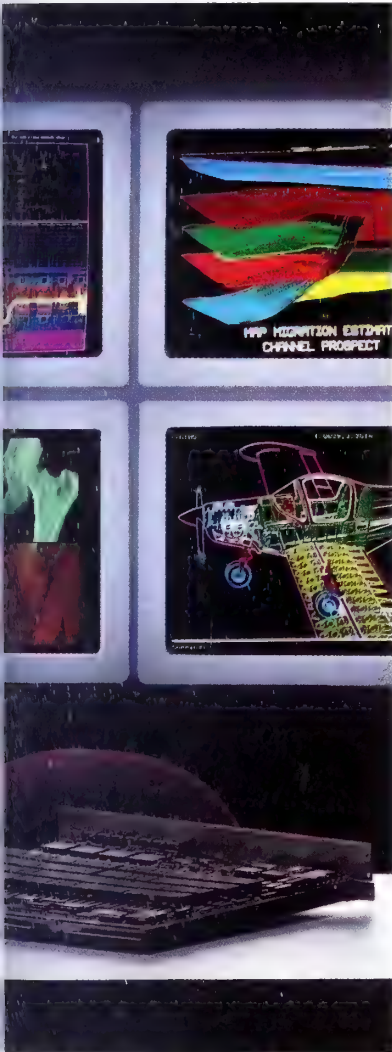
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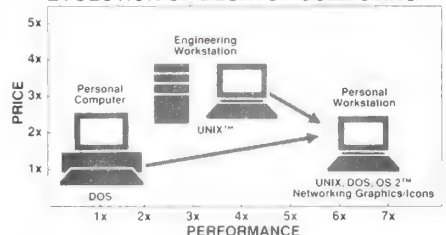
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Tired of keeping all those bulky telephone books around? SilverPlatter Directories Inc. has a solution. Beginning in September, it will ship pairs of compact disks containing about 100 million U.S. residential and business telephone listings and addresses. The disks, divided between Western and Eastern regions, can be

used to look up telephone numbers or even to compile direct-mail listings.

Despite the CDs' tremendous capacity, old-fashioned phone books still offer some big advantages: They're free, and the only special equipment you might need to use them is a magnifying glass. But entire groups of phone listings, selected by name, street, city, state, or zip code, can be found much faster by computer. A separate business-only disk will allow users to search for numbers listed according to industry. SilverPlatter's two-disk set will sell for \$2,995, with midyear updates. Several telephone companies offer similar CD directories, but SilverPlatter says its version is less expensive and more comprehensive.

MAD AT YOUR COMPUTER STORE? NOW YOU CAN CALL IN A REFEREE

You've just shelled out \$20,000 for a new business computer, but it's just not working right. The software—or maybe it's the hardware—really doesn't do what you remember the salesperson said it would. But if you sue the company that sold you the machine, you may be in court for years, spending more on litigation than you did for the system itself. Whom are you going to call?

ComputerCare, if you live in the Philadelphia area. It's a mediation service set up by the Better Business Bureau to resolve the technical disputes that frequently arise between computer sellers and their customers. Complaints are first reviewed by Weinberg Associates, a local computer consulting firm, which analyzes the problem and recommends mediation if that seems appropriate. A ComputerCare official says several computer shops and software companies in the area are beginning to write a ComputerCare participation clause into their sales contracts. So far, the procedure has settled disputes amicably and in a matter of days.

CHECKING OUT CREDIT CARDS IN A FLASH

Imagine your local movie house taking credit cards. Or the parking lot next door taking personal checks. Not a chance, you say? It could happen if Celerex Corp. in Seattle succeeds with a new in-store credit-checker. The two-year-old company has developed a PC-based system that eliminates the main problem that makes credit cards difficult for high-volume, low-ticket establishments to justify—time. Traditionally, it takes a minute or two to get authorization for a customer's charge plate. But that's intolerable at fast-food out-

lets, for example, where customers are by definition impatient.

Celerex' system removes the bottleneck by storing on a magnetic disk a list of many thousands of bad credit cards—the so-called negative file that now is often distributed in booklet form. Celerex' point-of-sale terminals can read the customer's Visa, MasterCard, or Discover card—or a check—and almost instantly see if it's good for limited purchase. Each night, too, Celerex' own computer can call the credit systems and electronically update their listings. The central computer also can extract payment information and relay it to participating banks. Celerex President José Porto says the system, which leases for about \$125 a month, has been ordered for several dozen Skipper's seafood restaurants in Colorado and Oregon.

TOSHIBA'S NEW LAPTOP MAY BE SMALL—BUT IT'S THE REAL THING

At some point on the march to miniaturization, a laptop ceases to be a full-blown computer. Sharp Corp.'s popular Wizard "personal organizer," for instance, is more Filofax notebook than true PC. And NEC Corp.'s 4-pound UltraLite computer, while a wonder to behold, runs software embedded in special microchips—not the usual floppy disks.

So, the title for the world's smallest "real" PC now goes to laptop market-leader Toshiba's new DynaBook model. A sleek 10 by 12 inches, and only 2 inches thick, it handles conventional 3½-inch floppy disks and boasts full compatibility with the IBM PC/XT. At 6 pounds, it may be slightly less fun to lug around than some other notebook-sized models. But Toshiba thinks the payoff in extra function will help it sell 350,000 units in Japan by 1992, at \$1,400 a pop. For now, DynaBook isn't being offered in the U.S. where, by coincidence, a company called Dynabook recently unveiled its own laptop computer. But if sales take off in Japan, Toshiba may find it hard to keep the product at home, though it may want to change its name.

THESE ON-BOARD COMPUTERS KEEP CABBIES HONEST

Don't be surprised if the next taxi cab you jump into is equipped with a video display screen on the dashboard. Your driver isn't necessarily a computer nerd or rocket scientist—he's just using a computerized dispatching system that's designed to make him more efficient and keep him on the up and up. In most cities, taxis communicate with their home



offices by radio-telephone, but that's open to abuse: Cabbies can intercept each other's radio calls, and dispatchers can favor certain cabbies over others. Moreover, it's easy to ignore calls—and leave would-be riders stranded.

Add a computer, though, and those problems can be eliminated. It can send digitally encoded dispatches to any selected taxi, with no chance of others reading them. The computer also can monitor each cabby's activity and identify those who fail to respond to assignments. What's more, computerized cab companies can add package-delivery and messenger services. Such systems are installed in 650 Chicago cabs, 1,200 London cabs, and, soon, 725 Philadelphia taxis. The leading suppliers are Gandalf Technologies Inc. and Motorola Inc.



BUSINESS WEEK CHINA

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that serves China's business community**

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BUSINESS WEEK CHINA

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Closing: October 23.

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Very big waves if you consider that this year, Georgia-Pacific will export nearly three-quarters of a million tons of market pulp to foreign customers. Enough to make us the largest exporter in America. And the future is looking even brighter, as we continue to increase productivity at every opportunity.

But pulp is only a part of Georgia-Pacific's flourishing paper business. A business that is generating well over 50% of our cash flow. And this year we should reap the benefits of over \$2 billion invested in pulp and paper projects in the last five years.

So while we're making a lot of waves right now, just wait until our ship really comes in.

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WHO'S THE BIGGEST OF THEM ALL?

Japanese companies account for nearly half the total value of the Global 1000

Like sumo wrestlers in training, the world's largest corporations keep getting bigger and bigger. As memories of the stock market crash of October, 1987, fade, investors are bidding up prices of leading shares around the globe. More and more, companies are growing across national borders, and smart money is never far behind.

Just take a look at BUSINESS WEEK's second annual Global 1000, a ranking of the most valuable companies according to market capitalization as of May 31. This year's Global 1000 were worth a total \$6.4 trillion, up 12.3% from their 1988 market value in 1988. And buoyant earnings forecasts suggest the heavyweights will add muscle in the second half of 1989.

BUSINESS WEEK introduced the Global 1000 ranking to gauge how well the world's leading companies were doing in the eyes of the markets. Comparative stock market valuations are a useful investment tool because they apply the

same general yardstick to measure corporate performance around the globe.

Morgan Stanley Capital International provided the data for the Global 1000. Its Geneva-based specialists follow 2,200 companies in 21 countries. A separate ranking includes companies in South Korea, Taiwan, Brazil, and Mexico, whose markets limit foreign investment or aren't fully developed. The listing of companies in those countries with 1988 sales of more than \$1 billion appears on page 176.

Once again, Japanese companies dominate the Global 1000, as the table on page 141 shows. U.S. corporations narrowly outnumber Japanese companies, 353 to 345. But the Japanese account for an impressive 47% of total value, with a growing presence in industries from building materials to paper. American companies trail behind, with 32.4% of the total Global 1000 capitalization.

Several Japanese companies posted spectacular increases in market value in

the latest listing. Eight more than doubled their market capitalization in dollar terms. Measured in yen, 16 grew by more than 100%. Japan's biggest gainer was Kawasaki Heavy Industries Ltd.: Valued at \$4.8 billion a year ago, it is worth \$11 billion today. A leading manufacturer of railroad track, the company benefited greatly from robust capital investment in Japan's railroads.

United States. A number of American companies racked up big increases in value, too, thanks to turnarounds and takeovers. The company that had the biggest share-price gain worldwide, an impressive 179%, was MCI Communications Corp. A successful restructuring and a vastly improved outlook for international long-distance telecommunications boosted investor confidence in the Washington (D.C.)-based company. NWA Inc., the Minneapolis-based airline, racked up the third-biggest gain, at 168%. Its stock price took off after a takeover battle, in which financier Al-

HOW COMPANIES STACK UP GLOBALLY

SALES

Billions of U.S. dollars

1. MITSUBI & CO.	\$117.0
2. GENERAL MOTORS	110.0
3. C. ITOH	108.5
4. SUMITOMO	103.6
5. MARUBENI	96.1
6. MITSUBISHI	93.3
7. FORD MOTOR	92.5
8. EXXON	87.3
9. ROYAL DUTCH/SHELL	78.4
10. HISSHO IWAI	72.9
11. IBM	59.7
12. MOBIL	54.4
13. TOYOTA MOTOR	50.4
14. SEARS, ROEBUCK	50.3
15. HITACHI	44.7

PROFITS

Billions of U.S. dollars

1. IBM	\$5.49
2. FORD MOTOR	5.30
3. EXXON	5.26
4. ROYAL DUTCH/SHELL	5.23
5. GENERAL MOTORS	4.63
6. GENERAL ELECTRIC	3.39
7. BRITISH TELECOM	2.41
8. DOW CHEMICAL	2.41
9. AT&T	2.27
10. DU PONT	2.19
11. TOYOTA MOTOR	2.17
12. FIAT	2.10
13. AMOCO	2.06
14. PHILIP MORRIS	2.06
15. MOBIL	2.03

SHARE-PRICE GAIN

Percent from 1988, U.S. dollars

1. MCI	179
2. BANKAMERICA	173
3. NWA	168
4. KAWASAKI HEAVY	128
5. UNITED TELECOM	125
6. FEDL. NATL. MORTGAGE ASSN.	121
7. HITACHI ZOSEN	118
8. FUJITA	116
9. MITSUBI ENG. & SHIPBLDG.	116
10. NCB	115
11. DAMPS. SVENDBORG	114
12. KOBE STEEL	111
13. SKF	111
14. KAWASAKI STEEL	109
15. EBARA	107

DATA: MORGAN STANLEY CAPITAL INTERNATIONAL INC., BW

THE GLOBAL 1000—THE LEADERS

RANK		Billions of U. S. dollars	MARKET VALUE	RANK		Billions of U. S. dollars	MARKET VALUE
1989	1988			1989	1988		
1	1	NIPPON TELEGRAPH & TELEPHONE	Japan 163.86	51	37	FUJITSU	Japan 19.05
2	9	INDUSTRIAL BANK OF JAPAN	Japan 71.59	52	52	CHEVRON	U. S. 18.90
3	2	SUMITOMO BANK	Japan 69.59	53	36	NIKKO SECURITIES	Japan 18.84
4	5	FUJI BANK	Japan 67.08	54	54	JAPAN AIR LINES	Japan 18.03
5	4	DAI-ICHI KANGYO BANK	Japan 66.09	55	98	MITSUBISHI ELECTRIC	Japan 17.94
6	3	INTERNATIONAL BUSINESS MACHINES	U. S. 64.65	56	131	SUMITOMO METAL INDUSTRIES	Japan 17.86
7	10	MITSUBISHI BANK	Japan 59.27	57	59	NIPPON CREDIT BANK	Japan 17.71
8	6	EXXON	U. S. 54.92	58	42	ALL NIPPON AIRWAYS	Japan 17.65
9	7	TOKYO ELECTRIC POWER	Japan 54.46	59	79	SEARS, ROEBUCK	U. S. 17.50
10	12	ROYAL DUTCH/SHELL GROUP	Neth./Britain 54.36	60	84	PROCTER & GAMBLE	U. S. 17.40
11	13	TOYOTA MOTOR	Japan 54.17	61	94	GTE	U. S. 17.33
12	14	GENERAL ELECTRIC	U. S. 49.39	62	68	BELL ATLANTIC	U. S. 17.12
13	11	SANWA BANK	Japan 49.29	63	62	DOW CHEMICAL	U. S. 17.00
14	8	NOMURA SECURITIES	Japan 44.44	64	83	PACIFIC TELESIS	U. S. 16.86
15	27	NIPPON STEEL	Japan 41.48	65	45	TAIYO KOBE BANK	Japan 16.63
16	21	AMERICAN TELEPHONE & TELEGRAPH	U. S. 38.12	66	64	UNILEVER	Neth./Britain 16.60
17	17	HITACHI LTD.	Japan 35.82	67	61	MITSUBISHI CORP.	Japan 16.50
18	15	MATSUSHITA ELECTRIC INDUSTRIAL	Japan 35.70	68	74	JOHNSON & JOHNSON	U. S. 16.45
19	41	PHILIP MORRIS	U. S. 32.14	69	56	DAIWA BANK	Japan 16.25
20	38	TOSHIBA	Japan 30.91	70	70	MINNESOTA MINING & MFG.	U. S. 16.09
21	33	KANSAI ELECTRIC POWER	Japan 30.89	71	47	MITSUMI TRUST & BANKING	Japan 16.09
22	16	LONG-TERM CREDIT BANK OF JAPAN	Japan 30.85	72	76	HYNEX	U. S. 16.05
23	18	TOKAI BANK	Japan 30.54	73	86	AMERITECH	U. S. 16.02
24	19	NETSUKU BANK	Japan 29.69	74	88	GLAXO HOLDINGS	Britain 15.92
25	35	MERCK	U. S. 27.52	75	171	KOBE STEEL	Japan 15.79
26	53	NISSAN MOTOR	Japan 26.98	76	51	SEIBU RAILWAY	Japan 15.67
27	48	MITSUBISHI HEAVY INDUSTRIES	Japan 26.65	77	100	SOUTHWESTERN BELL	U. S. 15.51
28	40	DU PONT	U. S. 26.08	78	120	SONY	Japan 15.19
29	31	GENERAL MOTORS	U. S. 25.25	79	104	ELI LILLY	U. S. 15.19
30	22	MITSUBISHI TRUST & BANKING	Japan 24.67	80	109	OSAKA GAS	Japan 15.05
31	24	BRITISH TELECOMMUNICATIONS	Britain 24.29	81	49	YAMAICHI SECURITIES	Japan 14.96
32	39	BELLSOUTH	U. S. 24.17	82	75	ASSICURAZIONI GENERALI	Italy 14.79
33	20	BRITISH PETROLEUM	Britain 24.15	83	44	TAKEDA CHEMICAL INDUSTRIES	Japan 14.75
34	25	FORD MOTOR	U. S. 23.93	84	73	EASTMAN KODAK	U. S. 14.52
35	43	AMOCO	U. S. 22.93	85	91	BRISTOL-MYERS	U. S. 14.39
36	34	BANK OF TOKYO	Japan 22.46	86	65	DAIMLER-BENZ	West Germany 14.36
37	55	CHUBU ELECTRIC POWER	Japan 21.97	87	122	PEPSICO	U. S. 14.22
38	23	SUMITOMO TRUST & BANKING	Japan 21.86	88	77	KINKI NIPPON RAILWAY	Japan 14.14
39	66	COCA-COLA	U. S. 21.50	89	111	AMERICAN HOME PRODUCTS	U. S. 13.58
40	60	WAL-MART STORES	U. S. 21.49	90	114	KAJIMA	Japan 13.53
41	26	MITSUBISHI ESTATE	Japan 21.45	91	101	AMERICAN EXPRESS	U. S. 13.49
42	116	KAWASAKI STEEL	Japan 21.30	92	102	B. A. T. INDUSTRIES	Britain 13.46
43	46	MOBIL	U. S. 21.15	93	69	YASUDA TRUST & BANKING	Japan 13.46
44	29	TOKYO GAS	Japan 21.13	94	96	IMPERIAL CHEMICAL INDUSTRIES	Britain 13.43
45	32	TOKIO MARINE & FIRE	Japan 20.91	95	115	SIEMENS	West Germany 13.39
46	108	NKK	Japan 20.15	96	78	NESTLE	Switzerland 13.39
47	63	ATLANTIC RICHFIELD	U. S. 19.63	97	124	AMERICAN INTERNATIONAL GROUP	U. S. 13.38
48	28	NEC	Japan 19.61	98	112	ABBOTT LABORATORIES	U. S. 13.35
49	30	DAIWA SECURITIES	Japan 19.11	99	80	FIAT GROUP	Italy 13.32
50	50	ASAHI GLASS	Japan 19.05	100	85	HONDA MOTOR	Japan 13.30

Footnotes on page 145

ed A. Checchi won a bidding war over Marvin Davis and Pan Am Corp.

Although the Japanese hold the lead in market capitalization, U.S. companies are the better performers by far. Eleven of the world's top 15 profit-earners are American companies: Top-ranked IBM's \$5.5 billion in profits surpassed the earnings of Italy's leading 15 companies put together. And despite all the stock market muscle, Japan came in second to last in the ranking of countries by return on equity. The average ROE for Japanese companies was only 9.2%, compared with 17.7% for the U.S.

Europe. Among other countries represented in the Global 1000, national composites show that France, Italy, and Sweden weigh more heavily this year than in last year's lineup. Europe's stock markets are humming, reflecting a surge in mergers and acquisitions as the corporate landscape shifts in preparation for a unified market in 1992 (page 144).

Europe's profit margins are fatter than ever, too, after years of restructuring and painful cost-cutting. That toning-up is a must if the Europeans are to compete with the Japanese and Americans as global competition stiffens in the 1990s. Encouraged by a surge in corporate profits, prices on the Paris bourse jumped 58% last year and have climbed 14% since Jan. 1. And many French companies, such as luxury-goods giant LVMH, are issuing new equity to raise funds to carry out their ambitious acquisition plans.

British and West German companies generally lost ground in the rankings, in part because of the dollar's advance against the pound and the mark. A wave of takeovers, such as Nestlé's \$3.9 billion acquisition of Rowntree PLC, has so far served to mop up equity from the British market. The popularity of raising capital by issuing debt rather than stock is reinforcing the trend toward "equity withdrawal."

Canada. Canada, too, loomed larger this year in the Global 1000. Its big gainers were such powerhouses as Pampam, Royal Bank of Canada, and media group Southam, reflecting growing confidence in Canada's fortunes as it increases trade with the U.S. under the terms of the 1988 bilateral Free Trade Agreement.

Hong Kong. A big loser was Hong Kong. While companies in the Crown

Colony also increased their standing in the Global 1000 overall, those gains have since been wiped out by events in China. News of the bloody crackdown on pro-democracy demonstrators in Beijing on June 4 erased nearly a quarter of the Hang Seng index of market capitalization. It is still about 15% below the pre-massacre level of \$51 billion.

■ **Japan.** What keeps Japan so far ahead of the pack? Strong fundamentals are the major factor behind its sky-high market valuations. Japan's gross national product grew at a 9.1% annual rate in the first quarter of 1989. Real GNP growth for the fiscal year that started Apr. 1 could top 5% for the third

the Tokyo market in the past 12 months.

Still, Japan's markets have some peculiarities that prop up stocks. Share buybacks, which shrink capitalization, are forbidden in Japan. To guard against raiders, corporations place parcels of stock with friendly institutions and other companies. This network of cross-holdings effectively keeps a chunk of equity out of circulation and drives up prices.

"There's an artificial shortage of shares that makes the capitalization higher than it really is," says Peter Tasker, a market strategist at Kleinwort Benson International Inc. in Tokyo. Estimates are that more than 80% of the stock of Japan's 13 commercial banks is held by friendly institutions. About half of the outstanding shares in the Tokyo market are similarly off-limits, says Kazuhisa Okamoto, chief analyst at Nikko Securities Co.

Tokyo's bull market took a breather in June as investors piled into foreign stocks. Political turmoil also moved stocks south: A scandal over allegations that Prime Minister Sosuke Uno had sexual liaisons with geisha and bar hostesses knocked the Nikkei back sharply. Earlier this spring, the upheavals in China, higher interest rates, and uncertainty about Japan's upper house elections in July cooled trading. Still, Kenneth S. Courtis, chief economist at DB Capital Markets (Asia) Ltd., and other economists predict the Nikkei will rebound to 37,000 by the end of the year.

Investors now seem to be unfazed by the rich prices of Japanese stocks. Among companies in the Global 1000 composite ranking, the Japanese have an average price-earnings ratio of 100, compared with 21 for U.S. companies. The high market capitalizations, however, are also a bulwark against foreign acquisitions of Japanese companies. "No foreign company has ever taken over a sizable Japanese company, and they would be hard put to do it," says Tasker of Kleinwort. Japanese companies are simply too pricey.

HEADY MARKET. Even buying a stake in a Japanese company can be tough—as Texas oilman and corporate raider T. Boone Pickens Jr. found out. He paid more than \$800 million in March for a 20.2% stake in Koito Manufacturing Co., but Koito's other major shareholders, including Toyota Motor Co., blocked Pickens' move to obtain three seats on

MARKET GUIDE FOR INVESTORS

National composites of Global 1000 stocks

	Market capitalization Billions of U.S. dollars	P/E ratio	Yield	Return on equity
1. JAPAN	\$2,998.6	100	0.5%	9.2%
2. U.S.	2,069.3	21	3.3	18.7
3. BRITAIN	451.4	14	4.4	21.5
4. W. GERMANY	151.1	25	3.7	14.1
5. FRANCE	114.8	14	3.1	25.5
6. CANADA	114.6	14	3.2	19.0
7. SWITZERLAND	72.9	21	2.2	12.7
8. ITALY	66.2	23	2.7	12.6
9. NETHERLANDS	66.1	11	4.8	21.1
10. AUSTRALIA	57.0	10	5.2	17.5

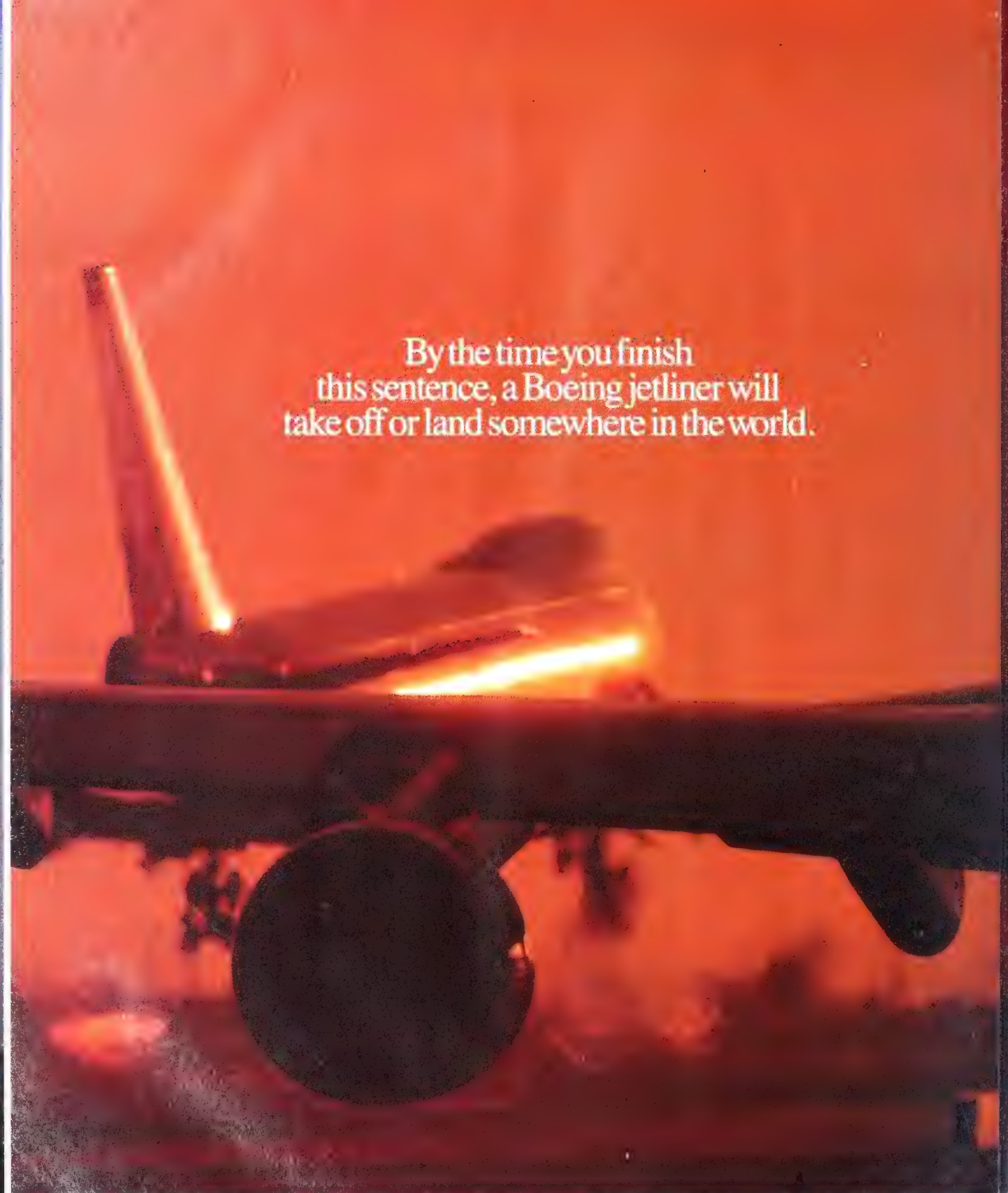
DATA: MORGAN STANLEY CAPITAL INTERNATIONAL INC., BW



straight year. Earnings of major Japanese companies jumped 24% last fiscal year and could climb 9.6% this year, Nikko Research Center predicts.

Rip-roaring domestic demand and massive restructuring to cope with the strong yen have been a boon to Japan's construction, steel, and other heavy industries. The rebound in basic industry shows up clearly in the Global 1000. Japanese companies in so-called sunset industries were among the biggest gainers in market capitalization.

Primed by the boom in building materials, which absorb 36% of Japan's steel consumption, "domestic shipments grew at a phenomenal rate," says Adam de V. Parr, an analyst at Barclays de Zoete Wedd (Securities) Japan Ltd. Aided by massive cost-cutting, aggregate net profits of Japan's Big Five steelmakers soared 271% in the year ended Mar. 31. Steel stocks were the top performers on



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aboard Boeing jetliners. Thousands
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takes off or lands somewhere on earth.

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of airplanes. We deliver a lot of people.

BOEING

the board of the automotive lighting company.

More important, Tokyo's heady market and low interest rates give Japanese corporations access to an enormous pool of inexpensive financing. The companies have used some of this money to pay off high-interest-rate debt. Total debt-to-equity ratios of companies listed on the first section of the Tokyo Stock Exchange have fallen from an average 3.8 in fiscal 1982 to 2.7 in the year to Mar. 31, says Courtis, in contrast with U.S.

companies, which are piling on junk-bond debt. This, in turn, permits Japanese corporations to raise even more money cheaply to fund expansion and research.

Most obviously, Japanese corporate clout is showing up overseas as investment in factories, real estate, and companies. Japanese direct investment abroad rose 41% last year, to \$47.2 billion for the year ended Mar. 31. The outflow is expected to be just as heavy this year.

Japan Inc.'s financial muscle is a crucial competitive edge. "Japanese companies will go into the next recession with a lot more padding than in the past," says RDBB's Courtis. "If they were as aggressive before, they're lethal now." More companies on the Global 1000 list are certain to have Japanese names in the 1990s.

By Amy Borrus in Tokyo, with Din Lee in Hong Kong, Victoria English in London, Blanca Riemer in Paris, and bureau reports

EUROPE'S GIANTS ARE HUNGRIER THAN EVER

Right now, Hanson PLC "could bid for Time, Paramount, and Warner," jokes Sir Gordon White, a founder of Britain's wealthiest conglomerate. More modestly, Hanson is pursuing instead Consolidated Gold Fields PLC, the largest gold mining group outside South Africa, for a mere \$4.8 billion. That's not much for a group that boasts \$20 billion in cash and borrowing rights and that has already gobbled up \$8 billion worth of European and American companies since 1986.

Hanson is just one of a number of large European companies poised for action. Three years into Europe's merger binge, there's no sign that it is cooling off. Awash in cash and obsessed by size, European companies are buying out one another as if there were no tomorrow. Accountants KPMG in Amsterdam count 1,200 mergers and acquisitions among major companies in 1988 alone. "The number of M&A deals in Europe may double by the end of this year," says Patrick Vermeulen, an analyst with Dewaay, Servais & Co. in Brussels.

NO TIME TO LOSE. What's behind the mad rush for growth? Now that Japanese and American companies are investing heavily in Europe, buying up companies and building plants, European managers don't have time to expand by internal growth, the old-fashioned way. The No. 1 strategy today is growth-by-acquisition.

The single European market of 1992, too, is a driving force behind the merger craze. Deregulation on the Continent will let companies span Europe,

tapping new markets. So the scramble is on to line up operations from Madrid to Manchester. "Companies that felt comfortable being No. 1 or No. 2 in their own country now view it as urgent to be stronger Europe-wide," says Jean Louis Beffa, chairman of French glassmaker Saint-Gobain.

But 1992 may be just the beginning for the European giants. Once they become powerhouses on the Continent, the Europeans will move easily onto

big companies grab the headlines, smaller enterprises are undergoing a quieter but equally profound restructuring. In West Germany, long believed to be impervious to merger mania, the Federal Cartel Office reports 1,159 acquisitions involving small and medium-size companies in 1988, up 30% over last year. Now, German companies, conservatively run and often faced with cash, may begin to look beyond their borders.

COMPLACENCY? Still, the merger boom could slow down of its own accord if prices remain at stratospheric levels. One study puts the average price for the latest dozen major acquisitions at 27 times earnings—double the market average. That limits the number of companies that can afford to play the high stakes game. And unlike their U.S. counterparts, regulators on the Continent might step in if companies begin to borrow heavily, analysts say.

Nonetheless, some executives think the shakeup is good for corporate Europe. "We have too many complacent managers and too many resigned shareholders," says Percy Barnevik, chairman of Swedish-Swiss conglomerate Asea AB.

Brown Boveri. After the dust settles, Europeans are almost certain to emerge as world leaders. Already, they account for 17% of the Global 1000. After 1992, there's no telling how far they'll go.

By Blanca Riemer in Paris, with Richard A. Melcher in London, John Templeman in Bonn, Jonathan Kapstein in Brussels, and bureau reports



the world stage. Already, French cement company Lafarge Coppée has become the second-largest in the world with its \$770 million purchase of Swiss holding company Cimentia. French aluminum maker Pechiney has become No. 1 in packaging by buying American Can Co. from Triangle Industries Inc. for \$1.2 billion.

While multibillion-dollar deals among

THE BUSINESS WEEK GLOBAL 1000

COUNTRY BY COUNTRY

GLOSSARY

MARKET VALUE:

Market price on May 31, 1989, multiplied by the available number of shares outstanding, translated into U. S. dollars at May month-end exchange rates. Market value may include several classes of stock; price and volume data are based on the company's most widely held issue.

PERCENT PRICE AND ANNUAL CHANGE:

Percent change in market price on May 31, 1989, in U. S. dollars. Annual percent change from May 31, 1988, to May 31, 1989, both in U. S. dollars and in each company's local currency.

PRICE/BOOK VALUE RATIO:

The ratio of May closing price to latest available net worth per share or common shareholders' equity investment.

PRICE/EARNINGS RATIO:

The ratio of May closing price to latest 12-months' earnings per share.

YIELD:

Latest 12 months' dividends per share as a percent of May closing price.

SALES:

Net sales reported by company, translated at May 31 exchange rates; revenues for banks and other financial institutions are not included because they are not comparable to those of industrial companies.

PROFITS:

Latest after-tax earnings available to common shareholders, translated at May 31 currency exchange rates; profits are from companies' continuing operations before extraordinary items. Sales, profits, and assets are for 1988 fiscal year unless noted; p/e and ROE based on latest 12 months' earnings per share.

RETURN ON EQUITY:

Latest 12-months' earnings per share as percent of most recent book value per share.

INDUSTRY CODE:

For key to the two-digit code, see page 176

Data for all individual companies: Morgan Stanley Capital International. Data for country composites and rankings calculated by BUSINESS WEEK.

COUNTRY RANK	GLOBAL 1000 RANK	MARKET VALUE U. S. \$ MIL.	PRICE PER SHARE U. S. \$	% CHANGE FROM 1988 (U. S. \$) (LOCAL)	PRICE/ BOOK VALUE RATIO	P/E RATIO	YIELD %	SALES U. S. \$ MIL.	PROFITS U. S. \$ MIL.	ASSETS U. S. \$ MIL.	RETURN ON EQUITY %	INDUSTRY CODE	
GLOBAL COMPOSITE													
	6383629	203	17	31	3.4	30	3.3	5845897	327808	15770405	17.2		
AUSTRALIA													
COUNTRY COMPOSITE													
	57016	4	-1	7	1.8	10	5.2	48582	4583	223263	17.5		
1 Broken Hill Proprietary	164	8824	6	0	7	2.5	12	3.1	7370	705	14335	20.8	11
2 Westpac Banking	450	3930	4	-18	-12	0.8	6	7.0	NA	520	63442	12.6	61
3 BTR Nylax	456	3913	4	30	39	3.9	16	3.1	2396	240	3046	23.9	37
4 National Australia Bank	457	3900	5	3	11	1.1	8	9.2	NA	399	47786	14.7	61
5 CRA	464	3827	7	-1	6	1.4	11	4.2	3988	337	5800	12.4	24
6 Elders IXL	508	3479	2	-6	0	1.3	6	7.3	11521	512	6978	20.5	59
7 ANZ Group Holdings	559	3203	4	0	7	1.1	7	8.7	NA	379	55366	16.1	61
8 Coles Myer	560	3198	6	-4	3	2.4	11	3.8	9587	246	3442	21.5	54
9 Western Mining	566	3170	4	-20	-14	2.0	10	5.2	651	269	2333	19.5	24
10 News	630	2883	11	16	24	1.0	8	0.7	4517	348	10396	12.8	51
11 Pacific Dunlop Olympic	766	2356	3	3	10	3.0	13	3.3	2736	140	1959	23.4	71
12 CSR	798	2264	4	-3	4	1.5	10	6.9	2580b	230b	3316	15.2	71
13 Boral	943	1876	3	-17	-11	1.7	10	6.5	2084	157	1992	18.1	21
14 M. I. M. Holdings	986	1779	1	9	16	1.5	11	3.2	1152	101	3072	13.6	24
BELGIUM													
COUNTRY COMPOSITE													
	30318	169	6	23	1.7	17	4.8	21309	1792	103971	11.7		
1 Petrofina	228	6904	319	14	32	2.2	14	4.0	8708	471	8433	15.6	11
2 Générale de Belgique	375	4594	117	-8	6	1.4	38	3.1	NA	86a	13455	3.8	71
3 Tractebel	526	3387	226	26	46	1.7	14	4.0	684a	162a	2876	12.6	71
4 Solvay	599	3018	364	14	32	2.0	9	3.6	6053	337a	4751	22.5	22
5 Intercom	691	2636	88	-3	12	1.4	12	7.6	2919	217	6435	11.1	12
6 EBES	873	2035	113	-1	14	1.6	13	7.3	2105	148	4675	12.6	12
7 Royale Belge	879	2020	128	-20	-8	2.5	28	2.9	840a	72a	8505	8.8	63
8 Groupe Bruxelles Lambert	900	1975	107	31	51	1.9	13	4.5	NA	140	2111	14.1	71
9 Electrafina*	929	1902	86	NA	NA	1.1	16	5.0	NA	42	697	7.0	11
10 Générale de Banque	955	1847	144	5	22	1.3	14	5.9	NA	116a	52033	9.4	61
BRITAIN													
COUNTRY COMPOSITE													
	451364	7	4	22	2.8	14	4.4	514191	42175	1204767	21.5		
1 British Telecommunications	31	24286	4	-8	8	2.0	10	5.2	17348b	2410b	25885	19.6	55
2 British Petroleum	33	24151	5	-5	11	1.5	14	6.0	40583	1896	45957	10.6	11
3 Shell Transport & Trading (1)	NR	21190	6	2	19	1.3	11	5.6	78394	5234	85280	12.3	11
4 Glaxo Holdings	74	15921	21	29	51	5.6	16	2.7	3226	895	4492	34.6	45
5 B. A. T. Industries	92	13465	9	18	38	2.4	9	4.7	18054	1487	15517	26.5	43
6 Imperial Chemical Industries	94	13435	20	12	32	2.5	9	5.3	17502	1312	13768	27.0	22
7 Hanson	115	12248	3	32	55	3.5	11	5.0	11589	1047	12241	33.0	71
8 British Gas	121	11698	3	-18	-3	1.1	9	6.3	11783b	1404b	17363	12.1	12

Based on consolidated results. ** Based on consolidated earnings per share and nonconsolidated book value per share. *** BUSINESS WEEK estimates. a) Based on 1987 data. b) Based on data. c) Data for 10 months. d) Data for 11 months. e) Data for 14 months. f) Based on interim balance sheet. 1) Sales, profits, assets, and global ranking calculated for Royal Dutch/Shell by combining operations of Britain's Shell Transport & Trading and Netherlands' Royal Dutch Petroleum. 2) Sales, profits, assets, and global ranking calculated for Unilever by combining operations of Britain's Unilever PLC and Netherlands' Unilever NV. 3) Structure changed in June 1989 to form Roche Holding. 4) In June 1989 International Thomson acquired Thomson papers to form Thomson Corp. 5) Global ranking calculated for ABB Asea Brown Boveri by combining market value of Sweden's ASEA and Switzerland's BBC Brown Boveri. 6) Global ranking calculated for Eurotunnel by combining market value of Eurotunnel (London) and Eurotunnel (Paris). NA = Not available. NR = Not ranked. NEG = Negative return.

THE GLOBAL 1000

COUNTRY RANK		GLOBAL 1000 RANK	MARKET VALUE U.S. \$ MIL.	PRICE PER SHARE U.S. \$	% CHANGE FROM 1988 (U.S. \$) (LOCAL)		PRICE/BOOK VALUE RATIO	P/E RATIO	YIELD %	SALES U.S. \$ MIL.	PROFITS U.S. \$ MIL.	ASSETS U.S. \$ MIL.	RETURN ON EQUITY %	INDU CO
9	General Electric	142	10089	4	39	64	2.3	13	3.9	9680	707	8391	17.4	3
10	BTR	145	9890	6	19	40	4.6	13	4.4	8576	762	7266	35.7	7
11	Cable & Wireless	162	8927	9	36	60	5.0	22	1.7	1460	384	3170	23.0	5
12	Barclays	187	7801	7	-4	13	0.9	5	6.9	NA	139	163898	17.1	6
13	Marks & Spencer	192	7652	3	-11	5	2.3	14	4.1	8023b	537b	4610	15.9	5
14	Beecham Group	207	7362	10	14	34	3.1	16	3.4	3933b	472b	3964	20.1	4
15	Grand Metropolitan	215	7268	8	-9	7	1.4	10	4.0	8626	646	9159	13.3	7
16	Racal Telecom	216	7239	7	NA	NA	NA	125	0.4	216	40	NA	NA	5
17	National Westminster Bank	219	7162	9	-10	6	0.8	5	6.5	NA	1470	154560	16.1	6
18	GPG	232	6775	8	30	53	1.7	13	3.1	3023	509	7466	13.3	4
19	Unilever PLC (2)	NR	6753	9	6	24	3.3	12	3.3	30980	1510	19910	27.8	4
20	RTZ	254	6178	8	3	21	1.9	9	4.0	7822	669	7154	21.1	2
21	Wellcome	263	6030	7	-28	-15	5.9	26	1.1	1960	199	1968	22.4	4
22	J. Sainsbury	289	5643	4	-6	11	3.5	14	2.8	9276b	392b	3391	24.3	5
23	Reuters Holdings	292	5569	13	43	68	11.0	25	1.5	1572	208	1115	43.6	5
24	Allied-Lyons	323	5148	7	-15	0	1.8	10	4.6	6034b	490b	6763	17.0	4
25	Bass	328	5087	15	0	18	1.3	9	3.5	4807	467	6435	14.7	4
26	Prudential	332	5056	3	-2	15	5.3	14	6.1	5829	364	48323	38.1	6
27	Racal Electronics	336	4998	8	36	60	6.8	31	1.3	2142	139	2094	21.7	3
28	Land Securities	386	4459	9	-18	-4	0.8	27	3.4	NA	165b	7109	3.1	6
29	Lloyds Bank	404	4289	5	-6	11	0.9	4	6.7	NA	964	81213	21.5	6
30	Tesco	414	4211	3	2	20	2.6	14	2.7	7839b	291b	3186	18.3	5
31	Boots	421	4157	4	18	38	2.6	13	4.3	4226	295	2380	19.8	5
32	Midland Bank	425	4099	5	0	17	0.8	6	6.5	NA	646	87324	13.6	6
33	Trusthouse Forte	428	4079	5	20	41	1.6	15	3.4	3203	276	3875	11.1	5
34	Peninsular & Oriental Steam	440	4038	10	-4	13	1.5	11	5.2	5290	343	6048	13.3	5
35	Great Universal Stores	446	3991	16	-15	0	1.1	10	3.9	3936	401	4861	11.0	5
36	Ladbroke Group	451	3929	9	21	43	1.2	15	3.7	4463	266	5233	8.5	5
37	Tarmac	485	3660	5	13	33	3.2	9	4.1	4450	382	2696	34.3	2
38	BOC Group	509	3468	8	10	29	2.3	10	4.6	3322	321	3786	21.9	2
39	Cadbury Schweppes	521	3409	5	-29	-17	4.3	15	3.5	3732	219	2433	29.3	4
40	Sun Alliance & London Insurance	527	3382	17	-12	3	1.0	9	5.0	4876	395	8739	12.0	6
41	Reed International	531	3365	6	NA	NA	2.2	11	3.6	2429b	298b	2930	19.1	5
42	Rank Organisation	553	3222	15	14	34	2.4	13	3.7	1291	246	2363	18.6	3
43	STC	565	3171	6	22	43	2.8	14	3.3	3693	227	2565	20.3	3
44	General Accident Fire & Life	571	3164	15	-8	8	1.1	9	6.1	4461	334	13438	11.8	6
45	Plessey	581	3103	4	45	70	3.1	15	3.9	2593b	205b	2024	21.0	3
46	ASDA Group	586	3079	3	-10	5	2.3	13	3.5	4276	227	2401	18.1	5
47	Thorn EMI	596	3043	11	-6	10	3.3	12	4.5	5155b	279b	3187	28.2	4
48	BET	601	3014	4	-1	16	3.6	11	5.3	2694	230	2292	31.8	7
49	Royal Insurance	610	2974	6	-16	-1	0.9	13	7.6	5168	240	12694	7.1	6
50	Argyll Group	620	2916	3	-12	4	4.2	22	3.7	5484b	243b	1752	19.2	5
51	Trafalgar House	625	2899	6	6	25	2.3	9	6.0	4193	284	3380	25.7	7
52	BAA	632	2881	6	6	25	2.0	15	2.9	819	165	2064	13.5	5
53	Gateway	639	2855	3	-7	9	2.6	13	5.9	8060	212	2954	20.4	5
54	MEPC	640	2853	9	-15	0	0.8	26	3.4	NA	109	5738	3.0	6
55	Fisons	641	2847	5	2	20	5.4	15	2.2	1291	161	1255	35.1	4
56	Pearson	644	2839	11	-14	1	3.7	13	3.4	1872	199	2060	29.1	7
57	Eurotunnel (London) (6)	NR	2823	17	NA	NA	3.6	NA	NA	NA	NA	1742	NA	5
58	Enterprise Oil	667	2758	9	19	40	4.2	23	2.7	301	115	1251	18.4	1
59	Sears	668	2758	2	-18	-3	1.9	10	5.8	4246b	290b	3243	20.3	5
60	British Steel	669	2748	1	NA	NA	1.1	8	5.5	6440	642	7241	13.0	2
61	Abbey Life Group	673	2736	4	-21	-7	26.2	15	5.5	722a	75a	3725	169.3	6
62	Pilkington	682	2669	4	1	19	2.1	9	5.0	3656	284	3659	23.9	2
63	British Aerospace	688	2650	10	47	73	0.8	11	4.2	8836	244	10175	7.5	3
64	TSB Group	693	2618	2	-7	9	0.7	6	6.6	NA	431	30915	12.7	6
65	Guardian Royal Exchange	696	2611	3	0	17	1.3	11	6.5	2473	246	6835	11.8	6
66	Rothmans International	697	2608	8	7	25	2.6	11	2.7	2034	210	2642	23.1	4
67	Reckitt & Colman	704	2584	17	9	28	3.2	14	3.1	2184	188	1504	23.3	4
68	Redland	724	2500	9	23	45	3.1	11	4.5	2976	223	2176	27.8	2
69	Associated British Foods	735	2472	6	4	23	1.0	10	3.5	3902b	251b	3164	10.5	4
70	Ranks Hovis McDougall	743	2447	7	6	25	1.7	14	3.4	2615	163	2549	12.3	4
71	Commercial Union Assurance	753	2422	6	-13	2	1.2	13	7.1	4687	191	19492	9.4	6
72	Whitbread	770	2349	5	2	20	1.3	11	4.8	2647	199	3176	12.2	4
73	Rolls Royce	771	2348	3	33	56	1.6	10	4.5	3092	227	2792	15.3	3
74	Lonrho	779	2331	4	14	34	1.2	9	7.9	5118	208	4707	13.1	7
75	RMC Group	792	2282	12	37	61	3.2	13	2.6	3236	175	2021	24.8	2
76	Legal & General Group	797	2265	5	-1	17	4.7	15	6.0	2283	149	21655	31.5	6
77	British Airways	799	2259	3	17	37	2.3	8	5.2	6670b	274b	4867	27.7	5
78	Blue Circle Industries	808	2234	9	12	32	1.8	10	4.9	1763	232	2890	19.0	2
79	United Biscuits (Holdings)	824	2193	5	-1	16	2.7	12	5.0	3729	179	2010	22.3	4
80	Hawker Siddeley Group	837	2155	11	19	40	1.8	12	4.3	2927	174	2573	14.3	3
81	Courtaulds	854	2089	5	-15	0	2.2	10	5.1	4074b	215b	2540	22.8	2
82	Smith & Nephew Associated	859	2061	2	-4	13	5.2	14	3.8	937	138	1107	36.5	4
83	Kingfisher	862	2055	5	-11	5	1.5	8	4.7	4168b	270b	2675	20.2	5
84	BICC	875	2032	8	30	53	3.9	13	4.3	4622	139	1992	30.1	3
85	Hammerson Property Invest.	877	2026	12	13	33	0.8	25	2.9	NA	81	3955	3.1	6
86	Hillsdown Holdings	902	1972	4	-14	0	2.4	10	3.0	5561	175	2372	23.6	4
87	Carlton Communications	915	1928	13	NA	NA	2.7	19	1.3	340	51	225	13.8	5
88	Standard Chartered	936	1894	8	3	21	1.0	4	8.8	NA	332	37120	23.1	6

Footnotes on page 145

We're making more sense than ever.



The new midsize Sonata.

Sonata is more than just another import car. It's a new kind of import car, and it's almost in a class by itself.

Take the roomy interior for example. It eclipses Camry, Stanza or Accord by 10 cubic feet. Head, leg, shoulder and hip room abound in the Sonata's front and rear seats.

And when it comes to power, the front-wheel-drive Sonata surpasses the others, with the most powerful standard engine in its class. The 2.4-liter OHC power plant with multi-point fuel injection delivers the highest torque output in its class.

The result: smooth, responsive performance with outstanding fuel economy.

Sonata also has standard features where the competitors have options; in fact, the Sonata has so many standard features, there aren't many options to choose from.

With all this, you might expect Sonata to cost more than cars like the Accord, Camry or Mazda 626. The revolutionary part is the all-new Sonata costs nearly \$2,000* less.

The new Sonata. It doesn't make much sense to drive anything else.



HYUNDAI

Cars that make sense.

Last year, millions of tons of grain were lost due to disease and drought. Grain that, had it survived, could have helped others do the same.

And while an estimated 10% of the world's population went hungry, more than 1 million square miles of the world's most arable land was lost.

For the many millions of people who went hungry last year, there is no greater technological breakthrough we could achieve than one which results in placing food on an empty table.

To help fight world hunger, a new plant is being built.

Today, ICI technology already helps more farmers throughout the world grow more food than any other company. But there's still more work to be done.

To that end, ICI is dedicated to the continued development of innovative agricultural products and technologies. And we back our efforts by spending millions on worldwide agricultural research to develop improved methods of food production.

Presently, our researchers are working with plant breeding technology to develop high-yield, disease and drought-tolerant crops. Crops which could one day help put an end to world hunger.

Plant bioscience is just one example of ICI's commitment to finding solutions to world problems.

Our health care efforts are helping in the treatment of breast cancer and other serious diseases. We're working on the development of new, ozone-friendly fluorocarbons. And we're revolutionizing the field of criminal investigation with the development of genetic fingerprinting.

Through research and innovation, ICI is developing products and technologies to help build a better tomorrow.

And for the millions of people who starve each year, plant a seed of hope.



THE GLOBAL 1000

COUNTRY RANK		GLOBAL 1000 RANK	MARKET VALUE U.S. \$ MIL.	PRICE PER SHARE U.S. \$	% CHANGE FROM 1988 (U.S. \$) (LOCAL)		PRICE/BOOK VALUE RATIO	P/E RATIO	YIELD %	SALES U.S. \$ MIL.	PROFITS U.S. \$ MIL.	ASSETS U.S. \$ MIL.	RETURN ON EQUITY %	INSTRUMENT
89	Cookson Group	951	1853	5	8	26	2.4	10	3.2	2441	180	1720	23.2	5
90	Maxwell Communication	952	1851	3	-29	-16	1.2	9	9.8	1769	213	2795	13.4	2
91	Burton Group	959	1840	3	-24	-11	1.9	8	5.5	2491	218	2245	23.5	4
92	Royal Bank of Scotland Group	983	1787	6	-4	13	0.9	5	5.5	NA	302	33955	17.5	1
93	Sedgwick Group	999	1742	4	-3	14	4.5	23	6.2	NA	81	2946	20.1	1

CANADA

COUNTRY COMPOSITE		114648	25	23	20	2.2	14	3.2	88477	10601	487080	19.0	
1	BCE (Bell Canada Enterprises)	152	9292	32	4	1	1.2	13	6.4	12635	735	23252	9.3
2	Imperial Oil	189	7669	45	0	-2	1.6	32	3.3	5968	415	8015	4.9
3	Seagram	208	7332	75	44	40	1.6	12	1.6	3994b	589b	9697	13.0
4	Canadian Pacific	268	5941	19	4	1	1.0	10	3.4	9954	642	14621	10.0
5	Toronto-Dominion Bank	326	5129	34	40	37	2.2	9	3.2	NA	553	49122	24.7
6	Alcan Aluminium	334	5044	22	17	14	1.2	5	5.1	8529	931	8615	23.9
7	Royal Bank of Canada	355	4847	36	56	52	1.4	8	5.0	NA	590	91120	18.5
8	International Thomson (4)	392	4364	15	40	37	5.1	19	1.9	3537	185	3419	9.8
9	Canadian Imperial Bank	415	4195	24	43	40	1.3	8	4.2	NA	490	78438	15.3
10	Shell Canada	418	4176	37	19	16	1.7	11	2.0	4192	354	4651	14.9
11	Northern Telecom	422	4148	17	-1	-3	1.8	14	1.6	4480	263	4870	12.6
12	Texaco Canada	436	4052	34	52	48	1.9	9	3.0	2205	276	3208	21.6
13	Thomson Newspapers (4)	480	3692	25	15	12	3.9	17	2.7	1002	211	1664	22.1
14	Noranda	528	3373	18	4	2	1.1	7	4.5	7193	501	9348	16.2
15	Inasco	557	3209	27	27	24	1.9	13	3.4	4971	260	4399	15.0
16	Inco	578	3115	29	34	31	4.5	4	2.7	3263	691	4079	120.1
17	Laidlaw Transportation	592	3051	14	12	9	4.4	21	1.4	980	122	1356	20.9
18	Moore	633	2871	31	25	22	2.2	15	2.9	2544	186	1847	15.1
19	Bank of Montreal	637	2865	26	26	23	1.0	7	6.7	NA	458	65366	15.4
20	Placer Dome	655	2810	13	-4	-6	1.9	13	2.0	653	217	2164	14.1
21	PanCanadian Petroleum	670	2742	22	10	7	2.3	26	2.3	572	104	2215	9.0
22	Bank of Nova Scotia	674	2734	15	46	43	1.2	6	4.7	NA	420	61854	18.3
23	Trizec	681	2670	29	15	13	5.6	51	1.4	905	84	7139	10.8
24	Nova Corp. of Alberta	826	2188	9	5	2	1.4	6	4.8	3265	351	6827	23.7
25	Gulf Canada Resources	906	1953	13	-12	-14	1.6	NA	2.6	721	56	3079	NEG
26	Brascan	910	1940	24	19	16	1.4	10	3.6	NA	218	4273	14.5
27	MacLean Hunter	913	1932	11	21	18	4.3	21	1.7	1079	80	1505	20.5
28	Falconbridge	919	1921	26	33	30	2.0	5	0.0	1759	282	2160	42.1
29	TransCanada PipeLines	957	1844	12	30	27	1.3	18	4.6	2708	120	4160	6.8
30	Southam	976	1802	28	61	57	3.3	26	2.3	1370	60	1030	12.5
31	Hees International Bancorp	995	1746	25	35	32	1.9	13	2.7	NA	158	3587	15.2

DENMARK

COUNTRY COMPOSITE		4259	12057	109	147	13.0	192	0.4	NA	22	430	6.8	
1	Dampskibsselskabet Af 1912	840	2145	9929	104	141	14.0	207	0.4	NA	10	205	6.7
2	Dampskibsselskabet Svendborg	848	2114	14184	114	153	12.0	176	0.3	NA	12	225	6.8

FINLAND

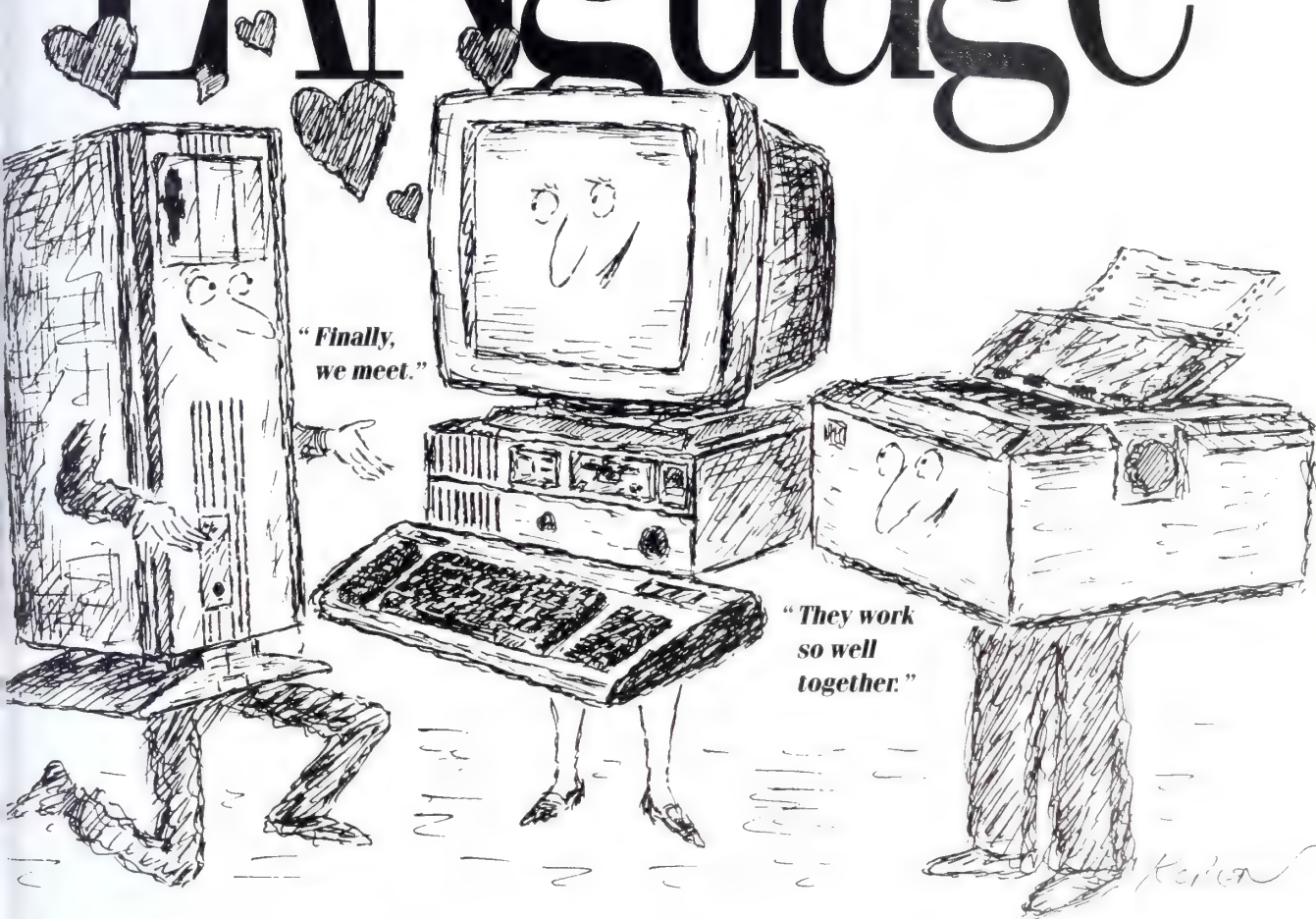
COUNTRY COMPOSITE		11277	29	2	11	2.5	19	2.7	8626	1148	73069	13.8	
1	Union Bank of Finland	561	3191	7	-10	-2	1.0	7	4.4	NA	396	29912	15.3
2	Kansallis-Osake-Pankki	722	2501	14	10	19	1.0	10	3.7	NA	223	32619	9.9
3	Kymmene	917	1925	27	-2	6	1.2	7	2.5	2341	260	4021	16.3
4	Pohjola	933	1899	68	41	54	7.9	60	0.3	1363a	46a	1531	13.2
5	Nokia	991	1761	30	-30	-24	1.2	9	2.4	4922	222	4985	14.2

FRANCE

COUNTRY COMPOSITE		114814	164	23	43	3.8	14	3.1	167419	10177	726958	25.5	
1	Elf Aquitaine	179	8177	76	43	67	1.0	7	5.9	18661	1066	22749	13.5
2	LVMH Moët Hennessy Louis Vuitton	211	7294	623	61	88	6.2	24	1.6	2435	297	3009	25.4
3	Peugeot	256	6156	247	29	49	1.4	5	2.5	20438	1311	14493	30.2
4	Groupe BSN	298	5441	104	35	57	2.3	17	2.1	6247	324	5087	13.8
5	Compagnie de Saint-Gobain	316	5197	90	14	33	1.5	7	3.2	8720	750	11758	21.2
6	Compagnie du Midi	317	5184	206	NA	NA	1.6	15	1.3	NA	200a	14135	10.5
7	Cie Financière de Suez	319	5177	49	12	30	1.1	14	2.8	NA	398	50918	8.3
8	Cie Générale d'Electricité	358	4774	64	38	60	1.9	14	3.1	18957	320	25326	13.2
9	Compagnie Générale des Eaux	361	4756	277	41	64	3.3	20	2.4	12618	204	7346	16.8
10	Paribas	410	4265	72	7	25	1.4	11	3.1	NA	392	96697	12.8
11	Société Générale	412	4230	72	20	40	1.6	9	4.0	NA	450	121016	17.7
12	Rhône-Poulenc	417	4183	86	34	56	1.8	7	5.1	9676	512	8897	25.1
13	L'Air Liquide	419	4168	93	11	29	3.1	18	3.1	3796	235	4105	17.3
14	Thomson-CSF	475	3730	34	-1	15	2.6	8	4.5	4917	438	8230	30.6
15	L'Oréal	503	3514	609	7	24	3.4	22	1.5	3620	157a	2497	15.1
16	Banque Nationale de Paris	576	3122	53	NA	NA	0.8	7	5.4	NA	453	144476	11.0
17	Lafarge Coppée	612	2954	228	4	21	2.6	11	2.9	3357	278	3811	24.6
18	Eurotunnel (Paris) (6)	NR	2917	18	NA	NA	3.6	NA	NA	NA	NA	165	NA
19	Total Cie Française des Pétroles	631	2881	72	12	30	0.8	13	6.2	12293	219	10739	6.3
20	Carrefour	656	2810	441	43	66	4.4	21	2.6	9602	135	3328	21.0

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Romance LANguage

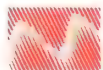


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COUNTRY RANK		GLOBAL 1000 RANK	MARKET VALUE U.S. \$ MIL.	PRICE PER SHARE U.S. \$	% CHANGE FROM 1988 (U.S. \$) (LOCAL)	PRICE/BOOK VALUE RATIO	P/E RATIO	YIELD %	SALES U.S. \$ MIL.	PROFITS U.S. \$ MIL.	ASSETS U.S. \$ MIL.	RETURN ON EQUITY %
21	Pechiney	701	2590	51	NA NA	1.8	8	5.2	7598	296	5502	23.5
22	Pechiney International	715	2535	33	NA NA	1.4	10	NA	6583	260	6531	14.6
23	Michelin	744	2446	29	-2 13	1.3	7	1.1	7675	351	8283	18.0
24	Groupe Victoire	776	2342	137	NA NA	3.8	13	1.4	NA	186a	7182	30.2
25	Crédit Lyonnais	788	2291	87	0 17	0.9	8	4.8	NA	305	133131	11.3
26	Source Perrier	815	2207	246	76 104	13.2	14	1.8	2244	153	1635	91.3
27	Sanofi	887	2004	127	4 21	1.6	16	3.5	2152	113	1893	10.2
28	Canal Plus	932	1900	107	NA NA	29.3	21	3.3	635	92	785	141.5
29	Pernod Ricard	935	1898	194	23 43	3.7	17	3.0	1995	110	1353	21.8
30	Havas	958	1844	146	40 63	7.8	17	1.7	2339	110	1284	46.9
31	Cap Gemini Sogeti	962	1828	400	-3 13	6.8	31	1.3	861	60	595	22.0

HONG KONG

COUNTRY COMPOSITE		38634	1	14	14	2.3	12	4.6	11289	3489	162148	20.8
1 Hong Kong Telecommunications	224	7005	1	-17	-17	7.5	18	3.2	1527b	468b	1368	42.0
2 Hongkong & Shanghai Banking	393	4362	1	5	5	0.9	8	6.8	NA	554	113952	12.0
3 Hutchison-Whampoa	461	3855	1	21	21	1.9	13	4.3	1663	299	4548	14.7
4 Swire Pacific	476	3716	2	11	10	1.3	10	4.2	3237	387	6288	13.1
5 Cathay Pacific Airways	529	3371	1	27	26	4.3	9	3.9	1947	364	2989	46.6
6 Hongkong Land	602	3010	1	49	49	0.6	19	4.1	NA	157	5835	2.9
7 Cheung Kong Holdings	714	2544	1	27	26	1.5	9	3.2	291	270	1863	16.1
8 Hang Seng Bank	720	2505	3	12	11	2.9	13	4.2	NA	199	16725	22.9
9 China Light & Power	772	2347	2	-11	-12	2.3	10	5.5	1144	236	1699	24.3
10 Sun Hung Kai Properties	846	2129	1	7	7	2.1	8	4.9	745	232	1842	26.7
11 Wharf Holdings	870	2038	1	36	35	0.8	15	4.0	308	130	3556	5.6
12 Hongkong Electric Holdings	993	1752	1	4	3	2.1	9	7.2	426	194	1483	22.7

ITALY

COUNTRY COMPOSITE		66169	11	19	34	3.1	23	2.7	80334	5247	254753	12.6
1 Assicurazioni Generali	82	14791	28	4	17	8.8	48	0.8	7602a	292a	18667	18.5
2 Fiat Group	99	13325	7	-1	12	2.1	7	3.4	30737	2099	32776	28.1
3 STET	371	4652	3	20	35	0.8	10	5.2	12001	508a	31165	7.8
4 Montedison	490	3621	1	29	45	1.7	9	2.4	9797	437	15425	18.9
5 RAS	511	3465	19	-15	-4	3.6	44	1.1	2181a	87a	6196	8.3
6 La Fondiaria	545	3274	40	-1	12	5.6	47	0.9	1268a	67a	3352	12.0
7 Olivetti Group	558	3206	6	-12	-1	1.6	14	3.7	5876	247	7461	11.5
8 SIP	564	3176	2	25	41	0.5	10	4.9	9282	344	25186	5.0
9 Banca Commerciale Italiana	608	2981	3	95	120	1.1	12	4.2	NA	259	56798	9.0
10 Mediobanca	618	2924	14	14	28	2.8	38	1.0	NA	84	9268	7.6
11 Ferruzzi Finanziaria	678	2709	2	NA	NA	NA	8	2.5	NA	384	NA	NA
12 Credito Italiano	807	2234	1	79	101	1.1	18	4.4	NA	130a	40922	6.2
13 Alleanza Assicurazioni*	817	2203	25	-11	0	8.0	42	1.3	423a	53	3378	18.8
14 Pirelli	971	1814	2	23	38	1.4	10	3.4	NA	196	1582	14.0
15 SAI	979	1793	13	20	35	3.8	35	0.9	1165	61	2576	11.1

JAPAN

COUNTRY COMPOSITE		2998657	16	13	29	6.5	100	0.5	1924236	50185	5642540	9.2
1 Nippon Telegraph & Telephone	1	163862	10404	-45	-37	6.2	105	0.3	40778b	1557b	79985*	5.8**
2 Industrial Bank of Japan	2	71587	30	24	42	12.2	145	0.2	NA	456	218455	8.4
3 Sumitomo Bank	3	69591	25	-1	13	9.4	69	0.2	NA	992	293021*	13.7**
4 Fuji Bank	4	67077	25	4	20	8.5	75	0.2	NA	873	286988	11.3
5 Dai-ichi Kangyo Bank	5	66086	23	2	16	9.6	61	0.2	NA	1061	308683	15.9
6 Mitsubishi Bank	7	59274	22	4	19	8.1	69	0.3	NA	845	278232	11.8
7 Tokyo Electric Power*	9	54458	41	-12	1	5.8	60	0.8	27497b	838b	69092	9.7
8 Toyota Motor	11	54166	19	11	27	2.3	25	0.7	50386	2172	38048	9.5
9 Sanwa Bank	13	49289	18	-7	7	7.3	55	0.3	NA	866	269155	13.1
10 Nomura Securities	14	44442	23	-21	-10	4.8	30	0.4	NA	1494	29368f	16.3
11 Nippon Steel	15	41475	6	65	89	8.8	147	0.6	16528	282	21960*	6.0**
12 Hitachi Ltd.	17	35821	12	9	25	2.5	28	0.5	44688b	1299b	39249	8.9
13 Matsushita Electric Industrial	18	35701	17	-9	4	2.0	25	0.5	38404b	1487b	33802	7.8
14 Toshiba	20	30914	10	47	69	5.9	37	0.6	26534b	831b	24152	15.9
15 Kansai Electric Power*	21	30888	33	40	61	4.5	64	1.1	14105b	482b	35799	7.0
16 Long-Term Credit Bank of Japan	22	30853	143	-8	5	8.3	83	0.4	NA	361	148958	10.0
17 Tokai Bank	23	30537	16	-5	8	6.6	64	0.3	NA	464	186964	10.4
18 Mitsui Bank	24	29694	16	-5	9	7.2	55	0.4	NA	545b	171721	13.2
19 Nissan Motor	26	26985	11	49	70	2.5	34	0.9	33600b	803b	29145	7.4
20 Mitsubishi Heavy Industries	27	26653	8	39	60	5.8	115	0.5	13197b	433b	19474	5.1
21 Mitsubishi Trust & Banking*	30	24665	19	-18	-6	5.6	46	0.3	NA	542b	92839	12.2
22 Bank of Tokyo	36	22459	12	1	15	6.3	53	0.4	NA	424b	127947*	12.0**
23 Chubu Electric Power*	37	21965	30	33	52	3.8	44	1.1	11591b	496b	26303	8.5
24 Sumitomo Trust & Banking	38	21860	18	-21	-9	6.8	43	0.3	NA	514b*	*89565	15.8
25 Mitsubishi Estate	41	21454	17	-16	-3	8.9	100	0.3	1760	214	6911	8.9
26 Kawasaki Steel	42	21301	7	109	139	9.1	350	0.5	7080	61	11815*	2.6**
27 Tokyo Gas	44	21127	8	-12	1	9.0	82	0.5	4958	258	5273*	11.1**
28 Tokio Marine & Fire*	45	20905	14	-8	6	7.0	82	0.3	5830b	308b	20843	8.5
29 NKK	46	20149	6	87	114	11.8	170	0.6	7995	117	16060*	7.0**
30 NEC	48	19609	13	-21	-10	4.7	44	0.5	21520b	450b	20591f	10.7
31 Daiwa Securities	49	19112	15	-19	-8	4.3	23	0.6	NA	831	32936f	18.9
32 Asahi Glass	50	19049	16	7	22	6.8	76	0.3	6026a	244a	6510*	8.9**

Footnotes on page 145

ENGLAND

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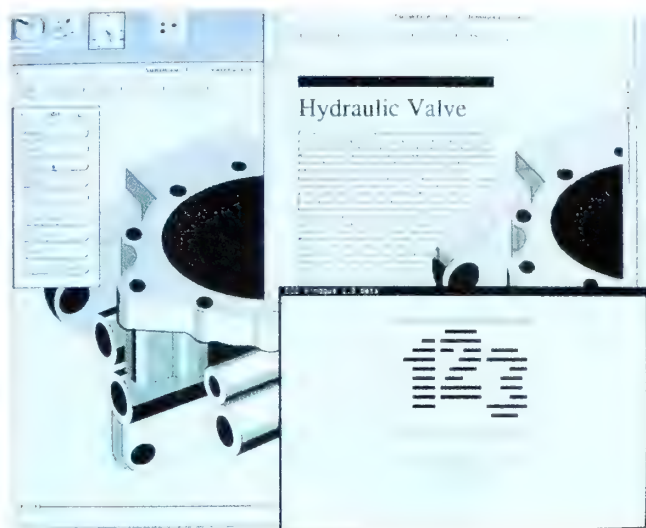
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33	Fujitsu	51 19049	11	-9 4	3.2	39	0.5	16688b	489b	16178	8.2	3
34	Nikko Securities	53 18839	13	-11 2	4.0	34	0.7	NA	552	23189f	12.0	6
35	Japan Air Lines	54 18029	115	3 18	15.9	126	0.2	6787	135	7403	12.6	5
36	Mitsubishi Electric	55 17941	8	47 68	4.4	47	0.7	18992b	385b	15564	9.5	3
37	Sumitomo Metal Industries	56 17859	6	98 127	7.6	857	0.6	7415	21	13260*	0.9**	2
38	Nippon Credit Bank*	57 17714	104	7 22	7.7	70	0.3	NA	215	94194	11.0	6
39	All Nippon Airways	58 17645	13	-12 1	14.4	426	0.2	3959	41	5674	3.4	5
40	Taiyo Kobe Bank*	65 16626	9	-18 -6	4.3	48	0.4	NA	374b	145893	9.0	6
41	Mitsubishi Corp.	67 16504	11	4 20	4.7	65	0.5	93321	218	52592	7.3	5
42	Daiwa Bank*	69 16253	12	-4 10	6.7	62	0.4	NA	245	86814	10.9	6
43	Mitsui Trust & Banking	71 16086	14	-11 2	6.7	44	0.4	NA	355	73393	15.1	6
44	Kobe Steel	75 15791	6	111 141	10.8	444	0.6	7374	34	11673*	2.4**	2
45	Seibu Railway	76 15672	36	-8 5	44.0	660	0.1	2584	24	2975*	6.7**	5
46	Sony	78 15194	54	32 51	2.4	30	0.6	15012b	506b	16514	8.0	4
47	Osaka Gas	80 15045	6	38 58	7.3	68	0.6	4015	221	5425	10.7	1
48	Yamaichi Securities	81 14963	13	-15 -3	3.7	27	0.7	NA	552	23042f	13.6	6
49	Takeda Chemical Industries	83 14751	17	-23 -12	5.1	55	0.4	4420	265	5854	9.2	4
50	Kinki Nippon Railway	88 14137	10	4 19	13.4	114	0.4	4532	121	5233*	11.7**	5
51	Kajima	90 13535	15	29 47	8.3	99	0.4	7981a	98a	9915*	8.4**	3
52	Yasuda Trust & Banking*	93 13458	13	-10 3	6.3	36	0.4	NA	296	60985	17.4	6
53	Honda Motor	100 13305	14	4 19	2.2	20	0.5	24362b	68b	11925f	11.3	4
54	Mitsui Real Estate Development	102 13191	17	8 23	6.0	66	0.4	5279	189	15257	9.1	6
55	Tohoku Electric Power*	103 13050	27	42 63	4.0	40	1.3	7248	357	15746	9.8	1
56	Kirin Brewery	104 12944	14	-20 -8	5.5	52	0.4	9147d	227d	6041f	10.6	4
57	Tokyo Corp.	105 12943	12	1 16	11.1	204	0.3	2241	60	6312	5.5	5
58	Nippon Oil	106 12915	11	15 32	4.3	76	0.4	15917	163	11172	5.7	1
59	Sanyo Electric	108 12490	7	44 64	2.6	284	0.8	8637	43	11654	0.9	4
60	Kubota	109 12482	9	50 72	5.9	63	0.4	5037b	128b	5122	9.2	3
61	Ajinomoto	113 12324	19	-26 -15	5.7	105	0.4	3387	116	4276	5.4	4
62	Kyushu Electric Power*	117 12102	27	49 70	3.6	41	1.3	7192	310	19551	8.9	1
63	Taisei	118 11956	12	58 81	7.0	110	0.4	8623	99	11626	6.4	3
64	Dai Nippon Printing	119 11834	17	-14 -2	3.5	61	0.4	5293c	189c	5309	5.8	5
65	Asahi Chemical Industry	122 11625	9	1 16	6.0	66	0.6	6647	170	6342	9.0	2
66	Kyowa Bank*	124 11501	10	-3 11	4.7	47	0.5	NA	235	9C284	10.1	6
67	Nippondenso	125 11482	16	6 21	3.5	42	0.6	8170	272	6706*	8.3**	3
68	Shimizu Construction	126 11373	15	83 110	9.0	140	0.4	7953	75	8218*	6.4**	3
69	Nippon Express	128 11107	10	16 33	13.3	116	0.3	8449b	96b	4886	11.5	5
70	Fuji Photo Film	129 11060	29	0 14	2.2	19	0.3	6124	573	8180	11.4	4
71	Kawasaki Heavy Industries	130 10967	8	128 162	19.1	170	0.0	4699	64	6590	11.2	3
72	Sumitomo Chemical	131 10867	7	-11 2	8.6	40	0.5	6263	274	4858*	21.7**	2
73	Mitsubishi Kasei	132 10829	8	-9 4	7.7	80	0.5	7115	172	9223f	9.6	2
74	Saitama Bank*	133 10772	11	NA NA	5.3	52	0.4	NA	168	76200	10.1	6
75	Fanuc	134 10722	45	-6 8	6.0	100	0.2	831	101	2043*	6.0**	3
76	Mitsui & Co.	135 10706	8	13 30	5.2	46	0.5	117027b	281b	35618	11.4	5
77	Ishikawajima-Harima Heavy Inds.	136 10699	8	10 26	12.3	2744	0.3	5963	4	7746	0.4	3
78	Nisshin Steel	137 10690	11	79 105	11.7	108	0.3	2604	97	3468*	10.8**	2
79	Bank of Yokohama*	138 10437	10	-6 8	5.3	76	0.3	NA	126	69581f	6.9	6
80	Ito-Yokado	139 10343	26	-22 -11	4.5	29	0.6	10648b	360b	5327f	15.7	5
81	Toray Industries	146 9854	7	7 23	4.2	40	0.6	5181	202	6245f	10.5	2
82	Sharp	147 9482	10	21 39	2.7	64	0.8	8554	142	11305	4.3	4
83	Toyo Trust & Banking*	149 9424	13	NA NA	5.0	34	0.4	NA	263	43787	14.8	6
84	Chugoku Electric Power*	151 9326	26	48 70	3.8	40	1.3	5544	235	14712	9.6	1
85	Seven-Eleven Japan*	153 9281	48	-8 5	13.0	56	0.4	4183	132	1013	23.2	5
86	C. Itoh	154 9191	7	13 30	5.3	42	0.5	108508	177	33719	12.6	5
87	Ohbayashi	155 9147	13	65 89	7.7	141	0.3	5795	64	8049	5.4	3
88	Komatsu	156 9145	9	70 95	3.1	62	0.6	5537b	145b	7218	5.0	3
89	Marubeni	163 8882	7	42 63	8.7	47	0.5	96093	115	44821	18.8	5
90	Toppa Printing	165 8665	14	-7 6	4.1	51	0.5	4951c	133c	3921*	8.0**	5
91	Kokusai Denso Denwa*	166 8615	134	NA NA	4.7	56	0.3	1801b	155b	3260	8.4	5
92	Tobu Railway	167 8609	11	42 62	10.0	231	0.3	1487	36	4305*	4.3**	5
93	Matsushita Electric Works	170 8555	15	-8 5	4.2	51	0.5	5509	168	4909	8.3	3
94	Nippon Yusen	171 8523	7	39 59	6.0	1305	0.4	4476	6	6020	0.5	5
95	Sumitomo Corp.	173 8436	10	6 21	3.0	19	0.5	103620b	450b	27155f	16.2	5
96	Bridgestone	175 8261	12	9 25	3.2	30	0.7	8309	279	5189f	10.8	3
97	Showa Denko	177 8253	8	38 58	15.2	61	0.4	4441	129	3952*	24.8**	2
98	Mitsukoshi	181 8067	17	31 50	13.6	354	0.2	5474	22	1896*	3.8**	5
99	Oji Paper	183 7971	13	21 38	6.1	63	0.4	3868	124	3154*	9.7**	2
100	Yasuda Fire & Marine*	184 7900	9	11 27	7.0	69	0.5	3945	101	15753	10.2	6
101	Kumagai Gumi	185 7858	12	59 82	3.9	97	0.5	6424	72	11395f	4.1	3
102	Canon	188 7760	13	31 50	2.7	30	0.7	7723	259	9076	8.9	4
103	Toa Nenryo Kogyo	195 7552	13	4 19	3.1	31	1.4	4064	245	3308*	10.1**	1
104	Matsuzakaya	196 7538	49	NA NA	19.7	249	0.1	3317	30	1244	7.9	5
105	Sekisui House	198 7535	14	-6 8	3.8	38	1.0	5342b	180b	6324	10.0	3
106	Sumitomo Electric Industries	199 7533	11	-9 5	4.4	56	0.4	5370	131	5175	7.8	3
107	Mitsui O. S. K. Lines	212 7291	7	105 135	8.8	LOSS	0.0	3051	-69	3877*	NEG**	5
108	Mazda Motor	217 7225	7	65 89	3.1	101	0.7	13993	71	8392	3.0	4
109	Shikoku Electric Power*	223 7088	26	50 72	3.6	46	1.3	2709	170	6992	8.0	1
110	Yamanouchi Pharmaceutical	227 6908	25	-14 -2	5.5	40	0.3	342b	55b	2301*	13.9**	4
111	Odakyu Electric Railway	233 6736	11	24 42	12.4	177	0.3	2213	36	3036*	7.0**	5
112	Daiei	234 6735	18	26 44	10.3	116	0.6	13546b	56b	6365	8.8	5

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JUST SAY NO.

America is hooked on foreign oil. Today, we import almost 40 percent of the oil we use—even more than in 1973, when the Arab embargo plunged us into gas lines, rationing, and recession.

The more we can use nuclear energy, instead of imported oil, to generate electricity, the less we have to depend on foreign nations.

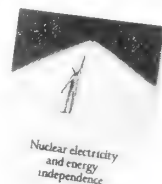
The 110 nuclear plants in the U.S. have cut our foreign oil dependence by over three billion barrels since 1973. And they have cut foreign oil payments by over one hundred billion dollars.

But 110 nuclear plants will not be enough to meet our growing electricity demand. More plants are needed.

To help kick the foreign oil habit, we need to rely more on

our own energy sources, like nuclear energy.

For a free booklet on nuclear energy, write to the U.S. Council for Energy Awareness, P.O. Box 66103, Dept. SN26, Washington, D.C. 20035.



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Nuclear energy means more energy independence.

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THE GLOBAL 1000

COUNTRY RANK		GLOBAL 1000 RANK	MARKET VALUE U.S. \$ MIL.	PRICE PER SHARE U.S. \$	% CHANGE FROM 1988 (U.S. \$)	(LOCAL)	PRICE/BOOK VALUE RATIO	P/E RATIO	YIELD %	SALES U.S. \$ MIL.	PROFITS U.S. \$ MIL.	ASSETS U.S. \$ MIL.	RETURN ON EQUITY %
113	Daiwa House Industry	236	6685	15	-10	3	5.3	59	0.5	3247	111	3775*	9.0**
114	Hokkaido Takushoku Bank*	237	6586	8	-1	14	4.0	53	0.6	NA	111	65915f	7.6
115	Nagoya Railroad	239	6557	9	19	36	11.4	133	0.3	2563	46	6325	8.6
116	Isuzu Motors	240	6546	7	46	67	7.2	139	0.5	8463	46	6135	5.2
117	Marui	242	6459	19	-20	-8	3.5	44	0.7	2975	143	3421	7.9
118	Taisho Marine & Fire Insurance*	245	6421	9	10	26	6.1	55	0.5	2591	98	10774	11.1
119	Shizuoka Bank*	246	6384	9	8	24	3.6	51	0.4	NA	112	37119	7.0
120	Mitsubishi Motors	247	6376	8	NA	NA	5.3	62	0.4	14021	94	NA	8.6
121	Sankyo	257	6138	17	9	25	5.4	72	0.3	2793	84	2470	7.4
122	Toyo Sash	258	6086	39	51	73	6.1	45	0.1	2535	128	2483	13.5
123	Hitachi Zosen	262	6052	6	118	150	14.2	92	0.0	2053	66	4034	15.4
124	Chiba Bank*	264	5990	9	NA	NA	3.5	55	0.4	NA	101	43627	6.4
125	Kao	266	5964	12	-23	-11	3.9	48	0.5	3994b	122b	3146	8.2
126	Fujita Corp.	267	5943	13	116	148	8.6	128	0.3	3498a	35a	6802*	6.7**
127	Teijin	271	5887	6	-5	9	3.6	44	0.7	3757	140	5103f	8.2
128	Fuji Electric	277	5814	8	47	69	6.8	121	0.5	3889	47	3515*	5.6**
129	Furukawa Electric	278	5791	9	29	47	6.2	54	0.5	4406	101	4407	11.4
130	Hankyu Corp.	279	5783	8	18	35	8.9	125	0.4	2039	45	3398*	7.1**
131	Keihin Electric Express Railway	280	5771	12	23	41	11.4	171	0.3	1431	33	3259	6.7
132	Hanwa*	286	5676	17	NA	NA	3.6	55	0.5	4224	78	8297	6.6
133	Kyocera	287	5664	37	-13	0	2.4	30	0.8	2367b	207b	3278f	7.8
134	Nippon Mining	291	5591	6	32	52	7.5	98	0.6	5635	52	4245*	7.7**
135	Keio Teito Electric Railway	296	5502	10	NA	NA	12.5	170	0.4	2227	28	3395	7.4
136	Ricoh	297	5485	9	-11	2	2.6	45	0.8	4706	119	4472	5.8
137	Hokuriku Electric Power	300	5429	26	45	67	3.6	43	1.3	2472	124	5944*	8.4**
138	Hokkaido Electric Power*	301	5423	26	46	68	4.0	32	1.3	3044	176	9049	12.5
139	Sumitomo Marine & Fire*	304	5412	9	-4	10	6.0	62	0.5	2367b	99b	9510	9.6
140	Hokuriku Bank*	310	5313	9	NA	NA	4.1	52	0.4	NA	96	44220f	7.8
141	Nintendo	313	5227	75	23	41	5.9	25	0.5	1417	210	1488	23.8
142	Toto	320	5174	17	-6	7	5.8	58	0.5	2060	90	1793f	10.0
143	Ube Industries	321	5170	6	39	59	15.7	38	0.0	3715	136	4231*	41.4**
144	Joyo Bank*	324	5144	8	NA	NA	3.6	42	0.5	NA	109	32210	8.4
145	Mitsui Toatsu Chemicals	335	5040	8	19	36	14.4	97	0.5	3051	52	4078	14.9
146	Mitsui Engineering & Shipbldg.	338	4971	7	116	147	8.0	LOSS	0.0	1417	-17	3137	NEG
147	Keisei Electric Railway	341	4951	18	NA	NA	-42.1	74	0.0	1145	67	1915	NEG
148	Mitsubishi Petrochemical	343	4944	11	0	15	7.6	28	0.4	2744	178	3541f*	27.6**
149	Mitsubishi Metal	344	4942	8	11	28	8.9	104	0.5	5418	45	5066	8.6
150	Daido Steel	349	4891	12	NA	NA	9.0	123	0.3	2325a	19a	1851*	7.3**
151	New Japan Securities	350	4878	12	NA	NA	4.4	30	0.5	NA	149	6047	14.3
152	Kyowa Hakko	352	4861	11	-13	0	5.6	52	0.4	1920	93	1996	10.8
153	Taisho Pharmaceutical*	353	4860	16	-6	8	4.9	37	0.9	866	121	1247	13.1
154	Sekisui Chemical	354	4850	11	-4	9	5.0	49	0.5	3708	99	2372*	10.2**
155	Dainippon Ink & Chemicals	356	4811	6	2	17	5.3	95	0.6	4336	47	4715	5.6
156	Nippon Kangyo Kakumaru	357	4803	13	NA	NA	3.3	27	0.4	NA	169	6038	12.3
157	Sumitomo Realty & Dev.	360	4758	13	17	34	3.5	67	0.5	1222	69	6899	5.2
158	Sumitomo Heavy Industries	362	4743	8	51	73	11.0	1481	0.0	1990	3	2998	0.7
159	Asahi Breweries	365	4706	15	-13	0	4.9	153	0.4	4895	31	3343*	3.2**
160	Koito Mfg.	367	4702	29	NA	NA	12.1	158	0.2	1033	30	821	7.6
161	Daiichi Seiyaku	368	4688	19	-11	2	5.8	42	0.3	1166	111	1799	14.0
162	Takashimaya	369	4682	22	22	40	10.8	41	0.2	6214	113	3359	26.6
163	Nichii	372	4643	18	10	26	5.1	49	0.8	7262b	94b	4666	10.4
164	Nagasakiya	373	4627	32	NA	NA	11.7	195	0.3	2618	24	1817	6.0
165	Okai Electric Industry	381	4517	8	19	37	5.2	176	0.5	3149	24	3581	2.9
166	Nissho Iwai	383	4481	7	49	71	5.2	75	0.5	72876	59	22777	6.9
167	Juho Paper	384	4479	9	43	64	6.3	48	0.4	3233	85	2992*	13.2**
168	TDK	388	4424	37	7	23	2.3	34	0.8	2919	156	3470f	6.7
169	Sato Kogyo	394	4353	18	NA	NA	15.7	214	0.2	2500	20	2691*	7.4**
170	Sumitomo Metal Mining	395	4342	10	-15	-2	11.1	166	0.4	3387	26	2142*	6.7**
171	Hachijuni Bank*	399	4319	8	NA	NA	3.6	52	0.5	NA	74	27797	6.9
172	Nippon Seiko	403	4303	8	34	54	3.3	86	0.7	2060	43	2838f	3.8
173	Toyobo	405	4284	6	29	48	7.4	94	0.6	3247	45	3201	7.8
174	Ashikaga Bank*	406	4278	8	NA	NA	3.6	41	0.4	NA	100	34040	8.6
175	Nisshin Flour Milling*	407	4277	21	NA	NA	17.3	177	0.2	1341	24	3967	9.8
176	Ebara	408	4270	15	107	138	6.4	55	0.4	1599d	47d	1245*	11.7**
177	Shin-Etsu Chemical	411	4232	13	-13	0	4.4	40	0.3	2081c	104c	2803	11.0
178	Omron Tateisi Electronics	416	4189	20	5	20	3.8	53	0.4	2206	75	1650*	7.1**
179	Sapporo Breweries	420	4160	12	-10	3	5.0	93	0.3	3526	45	3137*	5.4**
180	Korakuen	424	4111	30	-3	11	14.6	260	0.2	425	15	2132	5.6
181	Nippon Fire & Marine*	431	4069	8	13	29	6.0	59	0.6	1829	65	7569	10.2
182	Fuji Heavy Industries	433	4066	7	41	62	2.3	85	0.8	4699b	47b	4377	2.7
183	Victor Co. of Japan	434	4062	17	-9	4	2.6	64	0.5	5006	63	3430	4.0
184	Daishowa Paper	435	4057	20	40	61	11.7	56	0.3	2199	72	3363*	20.7**
185	Hitachi Metals	439	4042	12	32	52	4.8	81	0.4	2186	50	2135	5.9
186	Jusco	442	4024	14	-11	2	3.5	39	0.9	8065b	104b	3920	8.9
187	Sagami Railway	444	4002	11	41	62	14.2	199	0.3	915	19	2276*	7.1**
188	Mitsui Petrochemical Industries	447	3982	13	NA	NA	6.6	64	0.3	1850	61	2639f*	10.4**
189	Kawasaki Kisen Kaisha	453	3925	7	NA	NA	10.8	LOSS	0.0	2535	-56	3125	NEG
190	Shionogi	455	3921	11	-23	-12	3.7	48	0.5	1934	82	1683*	7.7**
191	NGK Insulators	458	3886	12	35	55	5.2	70	0.5	1536	53	1480*	7.5**
192	Bank of Fukuoka*	460	3873	8	NA	NA	3.1	37	0.5	NA	98	30898	8.5

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THE GLOBAL 1000

COMPANY	GLOBAL 1000 RANK	MARKET VALUE U.S. \$ MIL.	PRICE PER SHARE U.S. \$	% CHANGE FROM 1988 (U.S. \$) (LOCAL)		PRICE/BOOK VALUE RATIO	P/E RATIO	YIELD %	SALES U.S. \$ MIL.	PROFITS U.S. \$ MIL.	ASSETS U.S. \$ MIL.	RETURN ON EQUITY %	INDUSTRY CODE
Pioneer Electronic	465	3823	25	4	19	3.0	28	0.6	2821	128	2216f	10.9	41
Cosmo Oil	467	3799	7	15	31	8.8	70	0.5	9566	54	6748*	12.7**	11
Toyo Menka Kaisha	468	3796	6	41	62	5.7	87	0.6	35359	39	9615*	6.6**	59
Nikon	470	3757	10	7	22	6.1	LOSS	0.6	1383	-9	1797	NEG	46
Matsushita Communication	471	3756	20	-23	-12	3.6	53	0.4	2353	58	1573*	6.9**	34
Hiroshima Bank*	472	3740	7	NA	NA	4.0	50	0.5	NA	71	30800	8.0	61
Toyoda Automatic Loom Works*	473	3735	14	2	16	3.6	46	0.5	2570	74	1730	7.8	38
Ono Pharmaceutical*	474	3733	30	-39	-30	7.8	46	0.2	489	81	1159	17.0	45
Haseko	478	3702	10	5	21	2.8	51	0.8	2053	56	5486*	5.5**	32
Fujisawa Pharmaceutical	481	3688	12	-17	-5	2.9	48	0.4	1362	77	2482	6.0	45
Aoki	484	3666	10	15	31	4.4	102	0.6	1781	31	2689*	4.4**	32
Tokyo Steel Mfg.	487	3637	34	NA	NA	7.4	29	0.3	1250b	125b	845*	25.3**	25
Mitsubishi Rayon	488	3632	6	21	39	5.6	96	0.6	1983	36	2364	5.9	22
Isetan	492	3608	17	35	55	4.4	67	0.4	3037	53	1917	6.6	54
Hitachi Cable	497	3555	9	1	16	4.1	54	0.6	1864	64	1534*	7.5**	37
Sanyo-Kokusaku Pulp	498	3548	8	NA	NA	5.5	47	0.5	2800	68	2740	11.6	23
Amada	499	3534	14	44	65	3.2	157	0.7	803	22	1946	2.0	38
Tokyu Land	500	3531	9	24	43	5.6	61	0.2	1774	58	4062	9.3	64
Yokogawa Electric	515	3442	14	14	31	3.3	72	0.4	1313	46	1697	4.6	35
Murata Mfg.	517	3432	19	-14	-2	2.3	23	0.5	1480	125	2529f	10.2	35
Onoda Cement	518	3428	7	-7	6	5.9	48	0.5	2549	71	3225	12.3	21
Mitsubishi Gas Chemical	522	3408	7	25	43	4.6	85	0.5	1795	37	2062	5.4	22
Hazama-Gumi	525	3394	12	77	103	6.2	121	0.4	3177	27	3440*	5.1**	32
Shiseido	532	3364	12	-16	-3	2.0	50	0.6	2800	66	3497f	3.9	45
Janome Sewing Machine	533	3364	22	NA	NA	12.2	246	0.2	482	14	557*	5.0**	41
Bank of Kyoto*	535	3352	14	NA	NA	6.0	65	0.3	NA	49	18134	9.3	61
Gunma Bank*	537	3324	7	NA	NA	3.3	43	0.5	NA	68	21939	7.8	61
Daikin Industries	540	3280	13	61	84	6.6	41	0.4	2276b	80b	1412	16.1	38
Toyo Seikan Kaisha	544	3275	19	-18	-6	2.3	21	0.3	4392	158	2182*	11.2**	26
Secom	546	3273	44	-21	-10	5.2	71	0.4	789a	46a	1387	7.3	52
Eisai*	548	3256	14	-15	-2	3.8	42	0.6	1299b	78b	1475	9.0	45
Yamato Transport	552	3228	13	6	21	5.4	99	0.5	1997	28	1410*	5.5**	57
Nichido Fire & Marine Ins.*	568	3166	8	NA	NA	5.8	59	0.5	1864	52	8197	9.9	63
Orient Finance*	569	3166	10	-14	-1	2.5	32	0.8	NA	97b	34717	7.7	62
Japan Steel Works	570	3164	9	NA	NA	14.2	202	0.0	747	15	1088	7.0	38
Meiji Seika	575	3127	8	-2	13	4.4	146	0.5	1997	21	1279	3.0	44
Mitsubishi Paper Mills	577	3118	10	46	67	5.6	55	0.5	1362	50	1461*	10.2**	23
Toho Gas	579	3115	5	NA	NA	5.8	53	0.7	1334	57	1626	10.9	12
Okumura	580	3106	13	68	92	4.7	66	0.5	1753	35	2764f*	7.1**	32
Minebea	582	3100	8	-5	9	2.5	59	1.0	1397	51	3515	4.3	37
NTN Toyo Bearing	583	3099	8	32	51	3.5	73	0.7	1781	39	2424	4.7	37
Nippon Sheet Glass	584	3088	8	8	23	4.3	64	0.6	1550	47	1780*	6.7**	26
Denki Kagaku Kogyo	589	3060	7	18	35	5.3	49	0.5	1690	61	2027*	10.7**	22
Penta-Ocean Construction*	593	3051	10	41	61	11.7	153	0.3	2325	18	2059	7.6	32
Mitsui Mining & Smelting	598	3024	6	NA	NA	25.6	102	0.0	2206	30	2452	25.2	24
Dai-Tokyo Fire & Marine Insurance*	600	3015	9	NA	NA	5.5	53	0.5	1976	55	6661	10.4	63
Tanabe Seiyaku	603	3008	12	-26	-16	4.4	45	0.5	1613b	66b	1524	9.8	45
Hyogo Bank*	604	3007	11	NA	NA	5.0	74	0.3	NA	32	23356	6.7	61
Mitsubishi Mining & Cement	606	2997	7	29	48	6.1	84	0.5	2102	35	1839*	7.3**	21
Chugai Pharmaceutical	607	2991	12	-7	7	4.5	57	0.4	873	53	1137	7.9	45
NCR Japan*	609	2980	14	-17	-5	5.9	55	0.6	768	54	754	10.7	33
Nissin Food Products	613	2953	22	-35	-25	2.9	44	0.7	1117b	71b	1339	6.5	44
Kyushu Matsushita Electric*	614	2936	20	-9	4	6.0	61	0.3	1257	46	1036	9.9	41
Aisin Seiki	615	2934	11	5	20	2.7	39	0.7	3659	71	2394	6.8	37
Nippon Light Metal	616	2930	7	16	33	23.9	89	0.5	3142	33	1904*	26.8**	24
Fujikura	617	2926	9	NA	NA	5.1	70	0.5	1543	38	1744	7.3	37
Banyu Pharmaceutical	622	2912	11	-6	7	3.1	84	0.4	543	35	1195	3.6	45
Nippon Shinpan	623	2909	10	-5	9	2.5	33	0.8	NA	88	31575	7.5	62
Kokuyo	624	2904	23	-12	1	4.9	47	0.5	1550	61	1313	10.5	52
Konica	627	2895	8	-37	-28	2.4	227	0.9	3198	13	3327	1.1	46
Kanebo	629	2889	6	24	42	35.8	LOSS	0.6	3757d	-16d	3341	NEG	47
Nippon Meat Packers	643	2842	14	-18	-6	3.5	40	0.5	3673	70	2056	8.6	44
Tokyo Broadcasting System*	646	2827	17	-20	-8	3.5	56	0.3	1117	36	1275	6.4	51
Tosoh Corp.	649	2817	7	18	35	5.8	94	0.5	1599	29	2373*	6.2**	22
Shimadzu	650	2816	11	16	33	5.3	68	0.4	1047	41	1143*	7.8**	35
Chugoku Bank*	657	2810	14	NA	NA	2.5	35	0.3	NA	72	20745	7.1	61
Showa Shell Sekiyu	658	2803	10	NA	NA	7.2	37	0.4	8812	77	5754	19.7	11
Hino Motors*	661	2784	8	35	54	4.5	82	0.5	3128	28	1714	5.5	38
Mitsubishi Oil	664	2770	8	36	56	11.0	45	0.4	4832	55	3661	24.4	11
Unitika	677	2712	6	40	61	16.3	190	0.0	2311	14	2021*	8.6**	22
Daicel Chemical Industries	680	2683	8	9	25	4.1	53	0.6	1397b	65b	1886	7.8	22
Casio Computer	686	2656	10	1	15	3.0	56	0.9	1892	46	2382f	5.4	46
Fukuyama Transporting*	687	2655	11	NA	NA	4.7	43	0.7	1082	56	1207	11.0	57
Seventy-Seven Bank*	692	2624	7	NA	NA	3.2	35	0.5	NA	71	20305	9.2	61
Seiyu	705	2583	15	-4	10	4.2	63	0.7	7401b	41b	5481	6.7	54
Hitachi Chemical	708	2574	15	NA	NA	6.6	93	0.3	2786	27	1105*	7.1**	22
Nichirei	709	2573	9	-2	13	6.3	100	0.5	3030e	30e	1280*	6.2**	44
Citizen Watch	712	2567	8	8	24	3.5	65	0.6	1871	36	1748	5.4	46
Inax*	716	2529	13	-5	9	4.6	52	0.4	1355	48	1293	8.8	21
Nippon Shokubai Kagaku Kogyo	718	2525	14	16	33	7.3	46	0.4	922	55	926	15.8	22

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COUNTRY RANK		GLOBAL 1000 RANK	MARKET VALUE U.S. \$ MIL.	PRICE PER SHARE U.S. \$	% CHANGE FROM 1988 (U.S. \$) (LOCAL)		PRICE/BOOK VALUE RATIO	P/E RATIO	YIELD %	SALES U.S. \$ MIL.	PROFITS U.S. \$ MIL.	ASSETS U.S. \$ MIL.	RETURN ON EQUITY %	INDUSTRY
273	Nippon Electric Glass*	721	2503	18	10	26	5.1	64	0.3	1362b	54b	1646f	8.0	273
274	Nihon Cement	723	2500	9	NA	NA	4.3	36	0.4	1655d	63d	2645	11.9	274
275	Kandenko*	727	2492	24	NA	NA	4.4	45	0.2	2521	53	1808	9.6	275
276	Tokyu Department Stores	729	2491	10	9	24	4.1	71	0.5	2919	32	1984	5.8	276
277	Dainippon Pharmaceutical	730	2482	17	-24	-13	6.9	61	0.3	665	41	804	11.3	277
278	Daikyo Kanko*	731	2482	22	-5	8	3.1	26	1.0	2863	79	7584f	11.8	278
279	Snow Brand Milk Products	733	2475	9	-17	-5	4.9	62	0.6	6214	38	1573*	7.8**	279
280	Yamaha Corp.	737	2468	13	-27	-16	2.5	42	0.5	3261	59	2769	6.0	280
281	Mitsubishi Steel Mfg.	740	2463	17	NA	NA	44.4	1004	0.0	510	2	485*	4.4**	281
282	Seino Transportation	742	2451	17	-7	7	2.9	46	0.4	1578	51	1677	6.3	282
283	Yamazaki Baking	745	2446	11	-12	1	2.9	39	0.6	2863	63	1722*	7.5**	283
284	Kanegafuchi Chemical Industry	746	2445	7	-12	1	3.7	44	0.6	1508	55	1605	8.5	284
285	Matsushita-Kotobuki Elects.	748	2440	15	NA	NA	2.6	49	0.6	1459	59	1293*	5.4**	285
286	Machida Pharmaceutical*	751	2426	24	-29	-19	9.5	180	0.2	318	16	406	5.3	286
287	Suzuki Motor	752	2423	6	NA	NA	2.3	26	0.7	6284	75	4041	8.6	287
288	Nisshin Flour Milling	755	2410	12	16	33	4.4	55	0.3	2395	44	561*	8.0**	288
289	Chiyoda Fire & Marine*	759	2397	8	NA	NA	5.3	51	0.6	1718	47	5409	10.4	289
290	Arabian Oil	760	2395	48	NA	NA	6.6	223	0.6	747	11	788	3.0	290
291	Fujita Tourist Enterprises	761	2393	22	23	41	15.8	175	0.2	496a	14a	608	9.1	291
292	Uny	765	2359	14	-20	-9	2.6	40	0.9	4120	59	2365	6.5	292
293	Terumo	768	2354	14	NA	NA	3.9	54	0.4	624	44	1091	7.3	293
294	Tokyo Electron	769	2350	24	-5	9	4.6	60	0.1	880	39	1009	7.6	294
295	Chiyoda Corp.	774	2345	12	98	126	3.9	LOSS	0.0	1278	-84	2181	NEG	295
296	Kinki Electrical Construction*	775	2344	21	NA	NA	3.1	37	0.3	2172	60	2274	8.3	296
297	Toho Co.	777	2338	186	-6	8	5.6	55	0.4	922	42	782f*	10.1**	297
298	Yamaha Motor	783	2316	10	-7	7	5.4	39	0.4	3652b	45b	3044	13.9	298
299	Nisshinbo Industries	785	2305	10	-3	11	2.5	39	0.5	1571	58	1392*	6.4**	299
300	Yakult Honsha	789	2286	22	-5	8	3.7	38	0.5	1117e	74e	1276	9.8	300
301	Kuraray	793	2277	9	-26	-15	6.5	88	0.4	1962	26	1612*	7.4**	301
302	Tokyo Keiba	795	2269	9	NA	NA	9.3	158	0.2	121	14	325	5.9	302
303	Kyodo Printing	800	2255	25	NA	NA	21.2	193	0.1	611c	10c	439*	11.0**	303
304	Nippon Hodo*	801	2255	20	-22	-10	3.7	53	0.4	1662	35	1436	6.9	304
305	Green Cross	802	2253	11	-35	-25	4.2	134	0.3	607	17	790*	3.1**	305
306	Tobishima	809	2230	10	NA	NA	8.6	54	0.5	2437	37	4484	15.8	306
307	Japan Synthetic Rubber	810	2227	9	NA	NA	4.3	75	0.4	1264	29	1582	5.7	307
308	Itoham Foods	811	2216	10	-19	-7	3.1	51	0.9	2563	42	1538	6.1	308
309	Nitto Electric Industrial	816	2207	15	-23	-11	2.7	39	0.5	1243	57	1539	7.0	309
310	Honshu Paper	819	2200	7	NA	NA	7.6	84	0.5	2863	26	3583	9.1	310
311	Maeda Construction	833	2169	13	17	34	2.7	65	0.5	2604a	34a	2995*	4.2**	311
312	Yokohama Rubber	835	2158	9	NA	NA	7.3	54	0.4	2283	40	2033	13.5	312
313	Alps Electric	841	2144	12	-14	-2	2.4	37	0.9	2584	58	2661	6.4	313
314	Niigata Engineering	844	2137	6	43	64	7.3	LOSS	0.0	1236	-2	1338*	NEG**	314
315	Sanrio	847	2120	30	-21	-10	4.6	54	0.6	591	39	1753	8.4	315
316	Teikoku Oil	856	2082	8	13	29	3.5	60	0.5	384	35	736*	5.9**	316
317	Tokyo Electric	861	2057	9	8	24	2.7	127	0.6	1578	14	1232*	2.1**	317
318	Daimaru	863	2051	8	-4	10	6.0	111	0.4	5300b	20b	1580*	5.4**	318
319	Matsushita Refrigeration*	869	2039	12	NA	NA	3.7	37	0.6	1257	52	819	9.9	319
320	Advantest	872	2036	34	-32	-22	4.4	87	0.2	399	23	815	5.1	320
321	Nishi-Nippon Bank*	881	2017	6	NA	NA	2.6	38	0.6	NA	44	21325	6.8	321
322	Misawa Homes	884	2011	18	24	42	8.4	68	0.4	2248	30	1173*	12.4**	322
323	Fukuoka City Bank*	886	2010	10	NA	NA	3.3	35	0.4	NA	49a	7325	9.5	323
324	Meiji Milk Products	892	1998	7	-9	4	4.9	98	0.6	2695	20	998*	5.0**	324
325	Mitsubishi Warehouse & Trans.	894	1988	12	-5	9	5.9	15	0.3	692	133	840*	40.7**	325
326	Onward Kashiya*	895	1984	14	-3	11	3.0	42	0.9	1250	43	1113	7.1	326
327	Brother Industries	903	1967	8	5	20	2.7	46	0.9	1431	42	1586	5.8	327
328	Minolta Camera	918	1921	7	20	37	2.8	98	0.8	2032	18	2202	2.9	328
329	Olympus Optical	927	1904	10	6	22	2.3	41	0.9	1341b	47b	1181*	5.6**	329
330	Showa Line	930	1900	7	86	113	61.8	LOSS	0.0	761	-66	808*	NEG**	330
331	Showa Electric Wire & Cable	941	1882	9	NA	NA	5.6	76	0.5	915d	22d	728*	7.4**	331
332	Tokyo Sowa Bank*	942	1882	12	NA	NA	6.0	45	0.3	NA	37	18273	13.4	332
333	Nippon Television Network	944	1874	164	-21	-9	3.8	48	0.3	1117	38	970*	8.0**	333
334	Hitachi Maxell	950	1855	19	9	25	1.8	31	0.6	1166	59	1421	5.6	334
335	Makita Electric	961	1832	13	-2	12	2.0	23	0.9	901b	80b	1226f	8.9	335
336	Nachi-Fujikoshi	965	1824	8	-25	-14	6.0	125	0.4	915	15	759*	4.8**	336
337	Taiyo Fishery	966	1822	6	25	43	8.8	27	0.0	7367	1	3129f	32.3	337
338	Kureha Chemical Industry*	967	1819	8	-16	-3	3.0	30	0.6	824	66	963	9.8	338
339	Nippon Suisan Kaisha	970	1814	6	NA	NA	3.3	59	0.6	3708	29	2022	5.5	339
340	Kamigumi	975	1808	8	19	37	4.1	50	0.8	698	36	787	8.2	340
341	Iwatani International	977	1799	8	47	68	9.4	191	0.3	2737	8	1529*	4.9**	341
342	Sumitomo Cement*	978	1797	7	NA	NA	5.9	47	0.6	964b	35b	1422	12.7	342
343	Toyo Ink Mfg.	981	1790	7	-10	3	3.1	51	0.7	1222	34	1041*	6.1**	343
344	Mori Seiki	982	1789	22	16	33	4.5	125	0.5	387	14	613*	3.6**	344
345	Yuasa Battery	996	1746	10	66	90	10.3	122	0.4	586a	9a	515f	8.4**	345

NETHERLANDS

COUNTRY COMPOSITE			66077	49	8	25	5.4	11	4.8	155608	9138	349122	21.1
1	Royal Dutch Petroleum (1)	NR	33167	62	9	26	1.4	10	5.1	78394	5234	85280	14.3
2	Unilever NV (2)	NR	9845	62	15	33	3.3	13	3.1	30980	1510	19910	26.3
3	Philips' Gloeilampenfabrieken	377	4567	17	20	40	0.6	10	5.3	25007	472	23558	6.4

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Why Digital Is Not Good Enough.

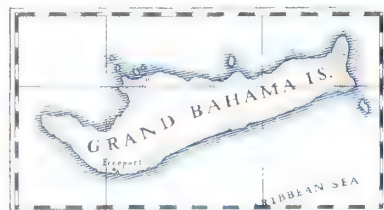
100% digital does not mean 100% digital *fiber optic*. Though the difference may strike you as subtle, the impact it can have on your telecommunications is astounding.



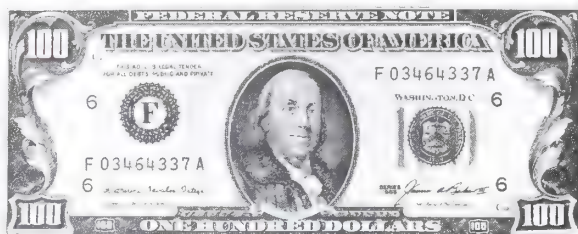
When it pours, we reign. Any network containing copper, microwave and satellite is at the mercy of the elements. And so is every customer that uses that kind of network. On the other hand, 100% digital fiber optics is immune to all electromagnetic interference commonly caused by inclement weather and surrounding power lines. So your voice, data and video transmissions go through rain or shine.

Best of all, the best costs less. Not only can every customer save on their long distance calls, they can also transmit data for the price of voice, save countless man-hours with faxes that arrive in six seconds instead of 60, and place their calls quickly on the very first try. In short, a 100% digital fiber optic telecommunications network *enhances* your ability to run your business better, rather than restricts it.

But only one such system exists. Ours. So even though AT&T doesn't have a 100% digital *fiber optic* network, you can. Just call 1-800-877-2000 now. And talk with the best.



Our network offers a lot to a lot. A single pair of hair-thin optical fibers can carry more than 16,000 calls, compared to 96 for copper. That means a mere 100 pair could carry the simultaneous calls of everyone in Manhattan. 100 pair of copper wire couldn't even carry one-fourth the calls of Grand Bahama Island.



 **US Sprint**
Talk With The Best.™

THE GLOBAL 1000

COUNTRY RANK		GLOBAL 1000 RANK	MARKET VALUE U.S. \$ MIL.	PRICE PER SHARE U.S. \$	% CHANGE FROM 1988 (U.S. \$) (LOCAL)	PRICE/BOOK VALUE RATIO	P/E RATIO	YIELD %	SALES U.S. \$ MIL.	PROFITS U.S. \$ MIL.	ASSETS U.S. \$ MIL.	RETURN ON EQUITY %	
4	Nationale-Nederlanden	462	3852	27	-3	13	1.0	11	4.6	5735	351	36547	9.7
5	Akzo	672	2737	65	15	33	1.4	7	5.1	7395	376	6008	20.4
6	DSM	832	2172	62	NA	NA	1.6	6	3.4	4511	277	3720	25.0
7	Algemene Bank Nederland	836	2156	18	-5	10	0.8	8	6.9	NA	272	75912	10.4
8	Amro Bank	865	2049	34	5	21	0.8	8	6.7	NA	262	74931	9.9
9	Dordtsche Petroleum	928	1903	115	NA	NA	34.3	18	5.6	NA	107	56	191.7
10	Elsevier	946	1863	29	6	23	12.9	18	2.1	724	105	628	73.0
11	Aegon	989	1767	43	12	29	1.4	9	4.9	2861	172	22573	15.8
NEW ZEALAND													
COUNTRY COMPOSITE			2567	3	-7	10	1.4	8	5.3	5390	345	6796	16.9
1	Fletcher Challenge	711	2567	3	-7	10	1.4	8	5.3	5390	345	6796	16.9
NORWAY													
COUNTRY COMPOSITE			4656	23	51	73	2.7	9	2.3	8345	524	9227	30.1
1	Norsk Hydro	370	4656	23	51	73	2.7	9	2.3	8345	524	9227	30.1
SINGAPORE/MALAYSIA													
COUNTRY COMPOSITE			11150	5	28	24	2.6	23	1.2	3285	544	25599	12.7
1	Singapore Airlines	401	4306	7	24	20	2.6	11	0.7	2050	308	3252	23.5
2	OCBC Overseas Chinese Bank	638	2858	5	47	43	3.4	33	1.0	NA	84	5743	10.3
3	Development Bank of Singapore	866	2048	5	17	13	1.7	20	1.1	NA	102	15074	8.5
4	Sime Darby (Malaysia)	911	1937	2	24	20	2.6	30	1.9	1236	50	1529	8.7
SOUTH AFRICA													
COUNTRY COMPOSITE			15369	15	3	21	2.4	9	5.5	1639	2085	14009	25.7
1	De Beers	295	5507	14	28	51	1.1	5	5.0	1154	1074	5775	22.4
2	Consolidated Gold Fields	427	4085	19	1	19	4.0	14	3.8	NA	334	2993	29.5
3	Anglo American	448	3965	17	0	17	1.4	10	4.9	NA	455b	4379	13.7
4	Driefontein Consolidated	973	1812	9	-18	-3	3.1	8	8.2	485	222	863	37.4
SPAIN													
COUNTRY COMPOSITE			46449	7	1	12	2.5	28	4.0	15383	3021	207060	13.7
1	Banco Bilbao Vizcaya	209	7323	8	-13	-3	3.1	13	3.5	NA	561a	48915	23.8
2	Telefonica Nacional de España	214	7276	2	0	12	0.7	15	5.7	4797	485	16931	4.9
3	Banco de Santander	325	5135	7	-17	-8	3.4	17	2.5	NA	310	23108	20.5
4	Repsol	345	4932	3	NA	NA	1.9	11	4.3	6414	441	5721	17.0
5	Endesa	364	4713	2	37	52	2.2	13	3.9	2114a	362a	8814	17.2
6	Banco Español de Crédito	454	3923	8	-6	5	2.6	17	3.5	NA	211a	24047	14.9
7	Banco Central	466	3817	8	-20	-11	2.4	20	3.6	NA	190a	26611	12.0
8	Banco Hispano Americano	652	2813	7	-7	4	2.2	124	3.3	NA	22a	26548	1.8
9	Iberduero	787	2297	1	-15	-5	0.5	14	8.4	1767a	157a	9791	3.7
10	Banco Popular España	828	2183	15	0	11	2.1	9	4.2	NA	244	16016	24.2
11	Asland	871	2038	15	48	64	5.8	52	0.9	291	37a	557	11.1
SWEDEN													
COUNTRY COMPOSITE			56837	52	28	43	3.9	23	2.0	77496	3764	160779	18.9
1	Volvo	322	5161	80	34	51	1.8	9	2.6	14416	612	11649	18.9
2	Skanska	347	4925	79	35	51	6.1	47	0.8	3446	128a	3685	12.9
3	ASEA (5)	NR	4571	77	19	34	2.5	25	1.7	16774	187	18088	10.2
4	Stora Kopparbergs Bergslags	479	3698	62	9	22	2.2	13	2.4	5119	281	7321	16.4
5	Skandinaviska Enskilda Banken	495	3566	14	17	31	1.9	10	2.7	NA	348	43158	18.7
6	Electrolux	501	3530	49	14	28	2.1	12	3.5	11043	273	8482	16.9
7	Svenska Cellulosa Aktiebolaget	594	3050	57	-3	9	2.7	16	1.9	3119	181	4114	16.6
8	L. M. Ericsson	635	2870	75	74	95	2.0	16	2.1	4671	178	4968	12.6
9	Astra	651	2815	39	19	34	5.0	25	1.0	937	111	1235	19.6
10	SKF	662	2780	23	111	137	1.9	18	2.3	3171	111	3670	10.5
11	Procordia	666	2760	74	NA	NA	3.1	18	1.2	2678	149	2653	16.8
12	Sandvik	676	2719	51	43	60	2.6	11	1.8	2447	237	3083	22.7
13	Saab-Scania	713	2553	38	5	18	1.3	9	3.1	6342	294	6081	15.4
14	Svenska Handelsbanken	717	2527	24	24	39	8.5	14	2.7	NA	268	35517	61.6
15	Skandia	864	2050	34	34	50	6.0	24	1.3	751	86a	2240	25.1
16	Huvudstaden	896	1981	81	16	30	14.5	109	0.6	106	18	504	13.3
17	AGA	984	1786	38	16	30	2.4	16	2.6	1463	108	2246	14.8
18	Pharmacia	992	1752	29	4	16	3.9	18	1.1	1013	105	1162	21.8
19	Investor	997	1743	61	NA	NA	3.2	22	1.7	NA	90	922	14.4
SWITZERLAND													
COUNTRY COMPOSITE			72970	2965	-13	5	2.2	21	2.2	79313	4632	358279	12.7
1	Nestlé	96	13388	4112	-28	-14	2.3	12	2.5	23568	1176	19212	19.1
2	Ciba-Geigy	159	8968	2062	-4	15	1.3	15	1.4	10221	767	14312	8.6
3	F. Hoffmann-La Roche (3)	174	8434	166811	32	58	2.2	32	0.5	5033	363	8848	6.9

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	GLOBAL 1000 RANK	MARKET VALUE U.S. \$ MIL.	PRICE PER SHARE U.S. \$	% CHANGE FROM 1988 (U.S. \$) (LOCAL)		PRICE/ BOOK VALUE RATIO	P/E RATIO	YIELD %	SALES U.S. \$ MIL.	PROFITS U.S. \$ MIL.	ASSETS U.S. \$ MIL.	RETURN ON EQUITY %	INDUSTRY CODE
Sandoz	200	7525	6140	-24	-9	2.8	19	1.1	5880	438	6273	14.5	45
Union Bank of Switzerland	201	7488	1767	-15	3	1.4	NA	3.9	NA	451	96496	NA	61
CS Holding	244	6438	1367	-4	16	1.4	NA	4.6	NA	343	65682	NA	61
Swiss Bank Corp.	293	5523	169	-26	-11	1.2	NA	4.5	NA	391	89256	NA	61
Zürich Vers.	402	4304	2618	-31	-17	3.5	NA	1.4	3819	108	7709	NA	63
BBC Brown Boveri (5)	NR	3010	2184	32	59	2.5	17	1.3	15054	180	16316	14.4	34
Schweiz. Rück.	659	2795	5705	-32	-19	2.9	30	1.3	6041a	116a	16652	9.6	63
Winterthur	663	2770	2520	-27	-13	2.5	27	1.5	6001	122	15731	9.4	63
Jacobs Suchard	781	2328	3973	-26	-11	2.6	13	2.4	3696	178	1791	19.4	44
UNITED STATES													
COUNTRY COMPOSITE	2069335	50	24	24	2.8	21	3.3	2346625	166030	5009743	18.7		
International Business Machines	6	64650	110	-3	-3	1.6	12	4.4	59700	5490	73040	13.9	33
Exxon	8	54923	43	-4	-4	1.7	11	5.1	87300	5260	74300	15.7	11
General Electric	12	49391	55	30	30	2.7	14	3.0	38800	3390	41280	19.0	34
American Telephone & Telegraph	16	38115	36	30	30	3.3	16	3.4	35200	2270	35150	20.6	55
Philip Morris	19	32142	139	66	66	4.2	15	3.2	31700	2060	36960	28.1	43
Merck	25	27524	69	30	30	9.6	22	2.4	5940	1207	6128	44.7	45
Du Pont	28	26077	110	33	33	1.7	11	3.8	32900	2190	30720	15.2	22
General Motors	29	25245	40	7	7	0.7	5	7.4	110000	4630	164000	13.2	42
BellSouth	32	24169	49	17	17	1.9	14	5.2	13600	1670	28470	13.4	55
Ford Motor	34	23927	49	2	2	1.1	4	6.2	92500	5300	143000	25.3	42
Amoco	35	22929	45	19	19	1.9	11	4.3	23900	2060	29920	17.0	11
Coca-Cola Enterprises	39	21504	58	52	52	6.7	19	2.4	8338	1045	8356	34.6	43
Wal-Mart Stores	40	21492	38	34	34	7.1	26	0.6	20649b	837b	6360	27.8	54
Mobil	43	21153	52	15	15	1.3	11	5.0	54400	2030	38820	12.1	11
Atlantic Richfield	47	19633	93	10	10	2.6	9	4.9	18300	1580	21510	29.1	11
Chevron	52	18902	55	12	12	1.3	13	5.1	27700	1770	33970	9.6	11
Sears, Roebuck	59	17499	47	35	35	1.2	16	4.3	50300	1030	77950	7.7	54
Procter & Gamble	60	17402	103	35	35	2.7	15	3.1	19336	1020	14820	18.6	44
GTE	61	17334	53	45	45	1.9	14	5.0	16460	1225	31100	13.5	55
Bell Atlantic	62	17116	87	21	21	1.9	13	5.1	10900	1320	24730	14.5	55
Dow Chemical	63	17000	93	12	12	2.3	7	3.5	16682	2410	16239	36.0	22
Pacific Telesis	64	16861	40	32	32	2.1	14	4.7	9483	1188	21190	14.8	55
Johnson & Johnson	68	16452	49	27	27	4.7	16	2.3	9000	974	7119	28.5	45
Minnesota Mining & Mfg.	70	16091	73	18	18	3.0	14	3.6	10581	1154	8922	21.6	71
Nynex	72	16045	79	21	21	1.7	12	5.6	12700	1320	22790	14.5	55
Ameritech	73	16017	60	31	31	2.0	13	4.9	9900	1240	19160	15.8	55
Southwestern Bell	77	15509	52	36	36	1.8	14	5.0	8453	1060	20980	12.7	55
Eli Lilly	79	15186	55	39	39	4.7	19	2.4	4070	761	5263	24.2	45
Eastman Kodak	84	14518	45	7	7	2.1	11	4.5	17034	1397	22964	19.8	46
Bristol-Myers	85	14387	50	19	19	4.1	17	4.0	5973	829	5190	24.1	45
PepsiCo	87	14224	54	49	49	4.5	18	1.8	13007	762	11136	25.4	43
American Home Products	89	13580	93	27	27	4.6	14	4.2	5501	932	4610	32.2	45
American Express	91	13494	32	28	28	2.8	14	2.6	NA	988	142700	20.5	62
American International Group	97	13383	82	44	44	1.9	11	0.6	8471	1217	37410	17.9	63
Abbott Laboratories	98	13350	59	28	28	5.4	17	2.4	4937	752	4825	31.5	45
Hewlett-Packard	107	12648	54	-5	-5	2.8	15	0.6	9831	816	7497	18.2	35
Texaco	110	12446	51	2	2	1.4	11	5.9	33500	1300	26340	12.3	11
US West	111	12407	68	26	26	1.6	11	5.5	9221	1132	22410	14.6	55
Walt Disney	112	12404	93	61	61	5.3	21	0.5	3428	522	5109	24.6	53
Boeing	114	12316	80	46	46	2.3	19	2.2	16962	614	12608	11.9	31
Anheuser-Busch	116	12165	43	38	38	3.9	17	1.7	8924	716	7110	23.2	43
Waste Management	120	11792	52	49	49	5.4	25	0.9	3566	453	4878	21.7	52
Digital Equipment	123	11603	92	-12	-12	1.5	10	0.0	11475	1306	10112	15.2	33
McDonald's	127	11261	60	36	36	3.9	17	1.0	5566	646	6982	22.8	53
Citicorp	140	10130	32	33	33	1.4	6	5.1	NA	1700	207600	23.6	61
Pfizer	141	10089	61	16	16	2.3	13	3.6	5385	791	7637	18.5	45
MCI Communications	148	9477	39	179	179	7.0	24	0.0	5137	356	5843	29.0	55
Schlumberger	150	9360	39	5	5	3.4	23	3.0	4925	454	5600	14.7	36
Westinghouse Electric	157	9070	63	18	18	2.4	11	3.8	11719	823	16940	21.7	34
USX	158	9034	35	11	11	1.8	11	4.0	16900	760	19470	16.9	25
Pacific Gas & Electric	168	8608	20	23	23	1.2	12	7.2	7646	638	21070	10.2	12
Dun & Bradstreet	169	8569	56	14	14	5.0	20	3.5	4267	499	5023	24.6	52
Kellogg	172	8513	69	29	29	5.7	18	2.5	4349	480	3298	31.7	44
Union Pacific	176	8258	73	15	15	1.8	15	3.0	6068	559	12228	12.5	57
Loews	178	8196	108	68	68	2.0	9	0.9	10865	890	25830	23.3	71
Southern Co.	180	8083	26	10	10	1.2	9	8.4	7235	846	19730	13.3	12
Emerson Electric	182	8001	36	19	19	2.8	14	3.2	6652	529	5027	19.7	34
Squibb	186	7853	81	29	29	5.6	18	2.5	2586	425	3083	31.2	45
Commonwealth Edison	190	7667	36	49	49	1.1	12	8.3	5610	740	17830	9.1	12
SmithKline Beckman	191	7656	62	18	18	5.0	17	3.0	4749	476	5017	28.4	45
K mart	194	7556	38	13	13	1.5	10	4.3	27301b	803b	12126	15.5	54
SCEcorp	197	7537	35	3	3	1.5	10	7.2	6253	762	14860	15.1	12

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He also doesn't realize
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COUNTRY RANK		GLOBAL 1000 RANK	MARKET VALUE U.S. \$ MIL.	PRICE PER SHARE U.S. \$	% CHANGE FROM 1988 (U.S. \$) (LOCAL)		PRICE/BOOK VALUE RATIO	P/E RATIO	YIELD %	SALES U.S. \$ MIL.	PROFITS U.S. \$ MIL.	ASSETS U.S. \$ MIL.	RETURN ON EQUITY %
63	Schering-Plough	202	7470	67	28	28	4.5	18	2.7	2969	390	3426	24.7
64	Warner Communications	203	7440	52	53	53	4.3	LOSS	1.3	4731	-11	4598	NEG
65	Monsanto	204	7374	107	38	38	1.9	12	3.2	8293	591	8461	15.7
66	Berkshire Hathaway***	205	7366	6425	64	64	2.0	20	0.0	1992	313	6816	9.9
67	J. P. Morgan	206	7365	41	13	13	1.3	8	4.1	NA	1002	83920	15.8
68	Motorola	210	7312	56	19	19	2.2	16	1.3	8250	445	6710	13.5
69	ITT	213	7283	60	25	25	1.0	10	2.5	19355	858	41941	10.6
70	Time	218	7187	127	39	39	5.3	27	0.8	4507	289	4913	19.8
71	United Telecommunications	220	7158	70	125	125	3.8	40	2.8	6493	142	9817	9.6
72	Capital Cities/ABC	221	7133	441	45	45	3.2	19	0.0	4773	387	5378	16.6
73	J. C. Penney	222	7124	58	24	24	1.8	10	3.9	14833b	807b	12254	18.9
74	Gannett	225	6955	43	32	32	3.9	19	2.5	3314	364	3792	20.6
75	Federal National Mortgage	226	6942	88	121	121	3.1	14	1.5	NA	507	112200	22.7
76	H. J. Heinz	229	6891	54	32	32	4.3	17	2.7	5244	386	3605	25.8
77	Tenneco	230	6848	54	21	21	2.2	87	5.6	13234	-1	17370	2.5
78	Burlington Resources***	231	6806	46	NA	NA	2.2	NA	1.3	2167	70	5589	NA
79	United Technologies	235	6718	51	37	37	1.4	10	3.1	18518	659	12748	13.7
80	Xerox	238	6557	64	23	23	1.2	18	4.7	16441	388	26440	6.9
81	Caterpillar	241	6465	64	3	3	1.6	10	1.9	10255	616	9686	15.5
82	Norfolk Southern	243	6453	36	35	35	1.3	10	3.7	4462	635	10058	12.6
83	American Brands	249	6328	68	47	47	2.5	12	3.6	11980	541	12200	21.7
84	Paramount Communications	250	6318	54	30	30	2.8	17	1.3	3056	385	5378	16.7
85	May Department Stores	251	6261	42	33	33	2.3	12	3.4	11742	503	6181	19.0
86	Tele-Communications	252	6200	35	54	54	5.1	585	0.0	2282	56	8574	0.9
87	Toys 'R' Us	253	6195	31	33	33	4.4	23	0.0	4000b	268b	2555	19.3
88	Aetna Life & Casualty	255	6165	54	23	23	1.0	8	5.1	18174	699	81410	11.4
89	Warner-Lambert	259	6068	90	37	37	6.1	16	2.9	3908	370	2702	38.7
90	Sara Lee	260	6067	55	43	43	3.9	16	2.6	10400	325	5012	23.8
91	Weyerhaeuser	261	6058	30	22	22	1.6	10	4.0	10004	564	15387	15.6
92	Occidental Petroleum	265	5983	28	5	5	1.2	12	8.9	19417	313	16740	9.5
93	General Re	269	5927	64	18	18	2.2	12	2.1	1903	513	9394	19.1
94	Intel	272	5868	33	6	6	2.8	13	0.0	2875	453	3549	21.6
95	Apple Computer	273	5862	48	15	15	5.8	15	0.8	4071	400	2082	37.8
96	Upjohn	274	5859	32	-2	-2	3.2	16	2.8	2746	353	3139	19.8
97	Rockwell International	275	5842	22	16	16	1.6	10	3.5	11946	600	9208	16.5
98	McCaw Cellular Communs.***	281	5760	44	119	119	NA	LOSS	0.0	311	-297	2076	NEG
99	Campbell Soup	282	5753	44	67	67	3.0	20	2.1	4869	242	3610	14.8
100	Phillips Petroleum	284	5716	24	35	35	2.7	8	3.7	11304	650	11968	33.9
101	Aluminum Co. of America	285	5716	65	41	41	1.3	6	2.5	9795	861	10537	20.9
102	Limited	288	5656	32	66	66	7.8	21	1.0	4071b	245b	1588	36.3
103	Consolidated Edison of N. Y.	290	5600	49	12	12	1.3	10	7.0	5109	599	9552	13.3
104	Chrysler	294	5507	24	9	9	0.7	5	5.1	35473	1050	48567	15.1
105	Syntex	299	5431	48	25	25	7.5	18	3.1	1272	297	1444	42.8
106	International Paper	302	5413	49	15	15	1.2	7	3.0	9533	754	9462	17.4
107	Ralston-Purina	303	5413	87	15	15	5.4	16	1.9	5876	363	4045	35.0
108	General Mills	305	5371	66	39	39	8.5	18	2.9	5179	265	2672	46.5
109	Baxter Travenol Laboratories	306	5340	22	4	4	1.7	16	2.6	6861	388	8550	10.6
110	Public Service Enterprise Group	307	5339	26	9	9	1.4	10	7.8	4395	529	11690	13.6
111	American Electric Power	308	5322	28	-4	-4	1.3	9	8.4	4841	627	14260	14.5
112	Kimberly-Clark	309	5315	66	25	25	2.8	14	3.9	5394	379	4267	20.8
113	BankAmerica	311	5311	29	173	173	1.6	9	2.1	NA	547	94650	18.2
114	Unocal	312	5311	46	27	27	2.5	13	2.2	10085	365	9508	18.9
115	LIN Broadcasting	314	5221	102	NA	NA	36.1	61	0.0	226	82	582	59.0
116	American TV & Communications	315	5200	48	NA	NA	27.3	71	0.0	812	70	1196	38.3
117	Allied-Signal	318	5179	35	6	6	1.6	11	5.1	11909	463	10005	14.5
118	Times Mirror	327	5112	40	30	30	3.0	16	2.4	3259	332	3475	19.3
119	CBS	329	5078	199	28	28	4.0	17	2.2	2778	283	3910	23.1
120	Browning-Ferris Industries	330	5071	34	51	51	5.8	21	1.4	2067	227	2258	27.5
121	Archer Daniels Midland	331	5058	29	38	38	1.9	13	0.4	6798	353	4397	14.5
122	Texas Utilities	333	5049	30	17	17	0.9	8	9.8	4140	643	16060	11.5
123	Security Pacific	339	4960	44	26	26	1.4	8	5.2	NA	639	77870	18.5
124	PPG Industries	340	4958	45	11	11	2.5	10	3.4	5617	468	5154	23.5
125	Melville	342	4946	45	43	43	2.9	14	2.9	6780	355	2736	20.9
126	American Cyanamid	346	4927	55	14	14	2.4	16	2.5	4592	306	4593	15.3
127	Borden	348	4897	66	27	27	2.6	15	2.7	7244	312	4440	17.2
128	Duke Power	351	4861	48	5	5	1.4	13	6.2	3627	448	8890	11.3
129	PacifiCorp	359	4773	39	10	10	1.6	12	7.1	3519	447	11936	14.0
130	Raytheon	363	4724	71	14	14	2.2	10	3.1	8192	490	4739	23.5
131	Quaker Oats	366	4704	59	29	29	3.8	19	2.0	5330	256	2975	20.1
132	Dayton Hudson	374	4610	54	55	55	2.2	15	2.1	12204b	287b	6523	15.0
133	CPC International	376	4573	58	23	23	3.8	15	2.7	4700	289	3342	25.0
134	NCR	379	4550	57	-9	-9	2.2	11	2.3	5990	439	4717	20.3
135	AMP	380	4538	42	-7	-7	3.0	14	2.8	2670	319	2375	20.9
136	Contel	382	4503	57	77	77	2.9	14	3.9	2964	312	5865	20.0

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COUNTRY RANK		GLOBAL 1000 RANK	MARKET VALUE U.S. \$ MIL.	PRICE PER SHARE U.S. \$	% CHANGE FROM 1988 (U.S. \$) (LOCAL)		PRICE/BOOK VALUE RATIO	P/E RATIO	YIELD %	SALES U.S. \$ MIL.	PROFITS U.S. \$ MIL.	ASSETS U.S. \$ MIL.	RETURN ON EQUITY %	IND.
137	Deere	385	4477	60	25	25	1.8	16	2.0	5365	287	5245	11.3	
138	Sun	387	4430	42	38	38	1.3	13	4.3	10000	321	8616	10.3	
139	American General	389	4410	36	20	20	1.1	11	4.2	3823	413	30420	9.5	
140	Marsh & McLennan	390	4398	62	14	14	5.8	15	4.1	NA	296	1830	38.3	
141	Georgia-Pacific	391	4367	47	23	23	1.7	9	3.0	9509	467	7115	19.4	
142	Dominion Resources	396	4329	44	1	1	1.3	11	7.3	3344	438	10282	12.6	
143	Cigna	397	4323	55	18	18	0.8	11	5.4	13454	418	55830	7.8	
144	CNA Financial	398	4319	73	30	30	1.3	8	0.0	6967	546	22940	15.1	
145	Philadelphia Electric	400	4313	21	19	19	1.2	9	10.5	3229	566	11860	12.7	
146	PNC Financial	409	4269	47	8	8	1.6	9	4.5	NA	443	40810	17.9	
147	Unisys	413	4222	27	-20	-20	1.2	12	3.8	9902	681	11530	9.7	
148	Travelers	423	4139	41	14	14	0.9	32	5.9	7779	103	53330	2.8	
149	FPL Group	426	4098	31	2	2	1.3	10	7.3	5854	448	11793	13.1	
150	Marion Laboratories	429	4077	27	68	68	10.7	21	1.3	752	150	554	49.8	
151	Hilton Hotels	432	4069	85	89	89	5.0	35	1.2	954	131	1892	14.2	
152	NCNB	437	4048	47	115	115	2.1	16	2.1	NA	252	29850	13.1	
153	MCA	438	4042	55	36	36	2.4	24	1.2	3024	165	4115	9.8	
154	Wells Fargo	441	4026	77	37	37	1.9	8	3.9	NA	513	46610	23.2	
155	Teledyne	445	3992	357	6	6	1.9	13	1.1	4598	392	5125	14.4	
156	Marriott	449	3940	36	27	27	5.6	18	0.7	7370	232	5981	30.6	
157	Gillette	452	3925	41	7	7	NA	16	2.4	3581	269	2868	NEG	
158	Tandy	459	3885	44	-2	-2	2.4	12	1.4	3794	316	2530	20.0	
159	Bankers Trust New York	463	3846	47	39	39	1.1	6	4.4	NA	648	57940	19.2	
160	Masco	469	3766	28	3	3	2.7	14	1.7	2439	288	2850	19.3	
161	Middle South Utilities	477	3708	18	84	84	0.8	9	4.4	3565	411	15940	8.5	
162	Union Carbide	482	3681	27	38	38	2.0	5	3.7	8324	662	8441	41.8	
163	Compaq Computer	483	3667	95	NA	NA	4.5	13	0.0	2066	255	1591	33.4	
164	Student Loan Marketing Assn.	486	3657	102	30	30	6.3	18	0.8	NA	225	28630	34.5	
165	AMR	489	3630	62	47	47	1.2	7	0.0	8824	5	9723	15.7	
166	Dow Jones	491	3617	36	12	12	4.1	16	2.0	1603	228	2112	26.1	
167	Texas Instruments	493	3593	44	-1	-1	2.1	11	1.6	6295	366	4428	18.7	
168	Santa Fe Southern Pacific	494	3581	23	33	33	7.4	30	0.0	3144	147	6824	24.8	
169	Consolidated Natural Gas	496	3556	43	24	24	2.2	21	4.1	2468	193	4109	10.4	
170	CSX	502	3521	33	24	24	1.1	367	3.8	7592	-38	13020	0.3	
171	Whitman	504	3511	34	NA	NA	4.0	20	3.0	3583	177	3486	20.4	
172	Colgate-Palmolive	505	3497	51	16	16	3.1	17	2.9	4734	195	3217	18.6	
173	Arco Chemical	506	3492	36	NA	NA	2.5	7	6.9	2700	494	2548	35.8	
174	Banc One	507	3491	27	7	7	1.7	10	3.9	NA	340	25270	17.1	
175	Houston Industries	510	3466	29	-6	-6	1.0	9	10.1	3649	395	10218	10.7	
176	Tribune	512	3451	46	23	23	2.9	16	1.9	2335	210	2941	17.9	
177	Corning	513	3447	39	51	51	2.2	12	2.1	2302	292	2899	18.8	
178	Scott Paper	514	3443	47	27	27	2.2	9	1.7	4726	401	5156	25.1	
179	GM Hughes Electronics	516	3434	27	-8	-8	NA	13	2.7	11244	635	11127	NA	
180	Salomon	519	3419	26	NA	NA	1.2	236	2.5	6146	280	74750	0.5	
181	Pitney Bowes	520	3417	45	7	7	3.3	15	2.3	2650	237	4788	22.9	
182	Delta Air Lines	523	3406	69	46	46	1.5	9	1.7	6915	307	5748	16.9	
183	Chemical Waste Management	524	3401	34	NA	NA	6.1	28	0.6	700	117	876	22.1	
184	Donnelley	530	3370	43	28	28	2.9	16	2.1	2878	205	2086	18.5	
185	F. W. Woolworth	534	3360	53	1	1	1.8	12	3.6	8088b	288b	3535	15.6	
186	McGraw-Hill	536	3324	69	27	27	3.6	18	2.9	1818	186	1758	19.7	
187	Oryx Energy***	538	3289	31	NA	NA	2.0	LOSS	3.9	1070	-305	4094	NEG	
188	Microsoft***	539	3280	61	4	4	6.5	22	0.0	591	124	493	30	
189	Ohio Edison	541	3279	22	15	15	1.3	10	9.1	2143	347	7556	12.8	
190	Genuine Parts	542	3278	42	17	17	3.8	18	2.8	2942	181	1141	21.6	
191	Reynolds Metals	543	3276	55	26	26	1.5	7	2.9	5567	482	5032	20.3	
192	Cooper Industries	547	3257	32	11	11	1.8	14	3.1	4258	224	4384	12.9	
193	Chase Manhattan	549	3254	37	35	35	0.8	4	6.5	NA	1059	97460	20.6	
194	Honeywell	550	3251	75	8	8	1.9	-7	2.8	7148	-435	5089	NEG	
195	Computer Associates Intl.	551	3248	41	NA	NA	6.5	20	0.0	1030b	164b	839	32.3	
196	Champion International	554	3220	34	2	2	1.0	7	3.3	5129	456	6700	14.0	
197	Halliburton	555	3219	30	-7	-7	1.5	43	3.3	4839	85	4722	3.6	
198	Washington Post	556	3216	250	20	20	3.7	18	0.7	1368	166	1422	20.5	
199	Central & South West	562	3189	34	5	5	1.2	10	7.7	2512	356	8110	12.7	
200	Amerada Hess	567	3166	39	38	38	1.4	11	1.6	4264	124	5372	12.6	
201	Newmont Gold	572	3146	30	-27	-27	14.5	30	0.2	389	108	324	48.8	
202	Fleet/Northstar Financial	573	3142	29	NA	NA	1.6	9	4.5	NA	336	29050	17.8	
203	NWA	574	3141	107	168	168	1.9	16	0.8	5650	135	4372	11.7	
204	Carolina Power & Light	585	3084	38	10	10	1.3	18	7.7	2273	197	7504	7.4	
205	Ethyl	587	3065	25	19	19	3.2	13	1.9	2011	231	1981	24.5	
206	SunTrust Banks	588	3065	24	NA	NA	1.6	10	3.2	NA	309	29180	16.2	
207	Goodyear Tire & Rubber	590	3054	53	-15	-15	1.5	9	3.4	10810	350	8618	17.2	
208	Albertson's	591	3054	46	NA	NA	3.8	18	1.8	6773b	163b	1591	21.5	
209	Humana	595	3047	31	16	16	2.6	12	3.3	3435	227	3422	22.4	
210	McDonnell Douglas	597	3041	80	34	34	1.0	11	3.5	15072	350	11885	9.0	
211	Merrill Lynch	605	2998	30	25	25	0.9	20	3.3	NA	208	64400	4.3	
212	Detroit Edison	619	2917	20	45	45	1.0	-16	8.5	3102	389	11158	NEG	

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THE GLOBAL 1000

COUNTRY RANK		GLOBAL 1000 RANK	MARKET VALUE U.S. \$ MIL.	PRICE PER SHARE U.S. \$	% CHANGE FROM 1988 (U.S. \$) (LOCAL)		PRICE/BOOK VALUE RATIO	P/E RATIO	YIELD %	SALES U.S. \$ MIL.	PROFITS U.S. \$ MIL.	ASSETS U.S. \$ MIL.	RETURN ON EQUITY %	INC.
213	Pennzoil	621	2913	81	11	11	2.3	21	3.7	2274	116	4479	11.0	
214	Pennsylvania Power & Light	626	2896	39	5	5	1.5	11	7.4	2214	332	7194	13.7	
215	Automatic Data Processing	628	2893	39	1	1	3.1	16	1.3	1549	170	1654	19.1	
216	Lockheed	634	2870	48	15	15	1.2	7	3.7	10590	442	6643	16.0	
217	Contel Cellular***	642	2844	25	216	216	18.8	980	0.0	41	2	182	1.9	
218	Chubb	647	2826	70	22	22	1.4	8	3.3	2765	360	9741	17.9	
219	Centel	648	2820	48	45	45	3.1	37	2.6	1095	110	3752	8.3	
220	Pacific Enterprise	653	2811	44	-6	-6	1.5	14	7.9	5932	203	6866	10.9	
221	Nordstrom	654	2811	35	NA	NA	4.4	22	0.8	2328b	123b	1512	19.7	
222	W. R. Grace	660	2786	33	33	33	1.8	14	4.2	5786	192	5310	12.6	
223	Texas Eastern	665	2762	52	96	96	2.2	15	1.9	3481	167	5444	14.7	
224	TRW	671	2739	46	-1	-1	1.8	10	3.8	6982	261	4442	16.7	
225	UST	675	2728	26	NA	NA	6.2	17	3.6	619	162	598	35.7	
226	Electronic Data Systems	683	2665	53	25	25	NA	16	1.8	4844	384	2958	NA	
227	USF&G	684	2660	32	0	0	1.4	12	8.6	4730	232	12360	11.9	
228	First Wachovia	685	2659	46	26	26	1.7	10	3.3	NA	244	21820	16.3	
229	UAL	689	2649	123	51	51	2.4	5	0.0	8982	600	6701	44.0	
230	First Union***	690	2647	25	11	11	1.4	9	4.0	NA	297	28978	14.8	
231	Dresser Industries	694	2614	39	11	11	1.7	18	2.6	3942	123	2899	9.7	
232	ConAgra	695	2614	34	16	16	3.2	15	2.3	9475	154	3043	21.4	
233	Union Camp	698	2606	38	13	13	1.7	8	3.9	2661	295	3094	19.7	
234	New York Times	699	2595	33	24	24	3.0	18	1.5	1700	161	1915	16.9	
235	Transamerica	700	2595	35	7	7	0.9	8	5.4	NA	346	26750	11.9	
236	Mead	702	2589	41	20	20	1.7	8	2.1	4464	364	3540	21.5	
237	Consolidated Rail	703	2587	38	30	30	0.6	8	3.2	3490	306	7224	7.8	
238	Hershey Foods	706	2582	29	24	24	2.6	17	2.4	2168	145	1764	14.7	
239	Union Electric	707	2578	25	6	6	1.4	10	7.9	2029	292	5827	13.3	
240	Walgreen	710	2568	42	29	29	4.1	18	1.6	4884	129	1512	23.2	
241	First Interstate Bancorp	719	2519	55	23	23	1.3	26	5.3	NA	102	58190	5.0	
242	Great Western Financial	725	2498	20	32	32	1.3	10	4.1	NA	248	32810	12.6	
243	Knight-Ridder	726	2496	47	12	12	3.0	20	2.6	2083	147	2357	15.6	
244	Federal Express	728	2491	47	15	15	1.8	14	0.0	3883	188	3009	13.4	
245	First Chicago	732	2480	40	44	44	1.3	5	4.5	NA	513	44430	24.3	
246	Textron	734	2472	27	18	18	1.0	9	3.7	7286	272	12554	11.7	
247	Ashland Oil	736	2470	42	23	23	2.4	11	2.4	8196	184	4254	21.5	
248	Amdahl	738	2467	23	-1	-1	2.4	11	0.4	1802	214	1931	21.1	
249	Deluxe	739	2465	29	28	28	4.3	17	3.2	1196	143	786	25.3	
250	Emhart	741	2456	39	82	82	2.7	19	2.2	2763	127	2426	14.1	
251	Coca-Cola Enterprises	747	2442	18	24	24	1.6	18	0.3	3874	153	4669	8.6	
252	Himont***	749	2436	38	38	38	1.7	7	4.3	1711	373	1905	25.9	
253	Coastal	750	2427	41	48	48	1.9	14	1.0	8187	157	7870	13.2	
254	James River Corp. of Virginia	754	2421	30	27	27	1.3	10	1.6	5872b	255b	5005	12.4	
255	Baltimore Gas & Electric	757	2409	30	-7	-7	1.3	9	6.9	1864	303	5126	13.9	
256	Martin Marietta	758	2403	46	11	11	2.0	7	2.4	5727	320	3319	27.2	
257	Centerior Energy	762	2392	17	11	11	0.8	9	9.4	2038	247	12047	8.3	
258	General Dynamics	763	2392	57	6	6	1.2	7	1.7	9551	379	6118	19.1	
259	CMS Energy	764	2363	29	57	57	1.2	8	0.0	2943	272	8305	14.8	
260	Maytag	767	2354	23	4	4	3.5	13	4.0	1886	136	1330	26.1	
261	St. Paul	773	2345	51	19	19	1.2	7	4.4	2706	353	10380	16.9	
262	Air Products & Chemicals	778	2331	43	-7	-7	1.8	11	2.8	2432	214	3000	16.9	
263	Rohm & Haas	780	2329	35	14	14	1.9	11	3.2	2535	230	2242	18.4	
264	Morgan Stanley Group***	782	2317	66	59	59	1.7	7	1.4	4109	395	40051	24.5	
265	Northeast Utilities	784	2309	21	10	10	1.3	10	8.3	2279	234	6664	12.8	
266	Barnett Banks	786	2302	38	17	17	1.7	10	3.1	NA	226	25750	17.7	
267	Eaton	790	2285	62	20	20	2.0	10	3.2	3469	228	3034	19.9	
268	Chemical Banking	791	2282	36	23	23	0.7	3	7.6	NA	754	67440	24.2	
269	Sovran Financial***	794	2276	39	19	19	1.6	9	3.9	NA	243	22484	16.9	
270	Hercules	796	2268	49	6	6	1.1	17	4.5	2802	143	3325	6.7	
271	National Medical Enterprises	803	2247	31	28	28	2.3	13	2.2	3202	170	3507	18.5	
272	Rubbermaid	804	2244	31	40	40	4.4	22	1.4	1194	99	782	20.1	
273	National City***	805	2238	37	27	27	1.7	9	4.5	NA	233	21623	17.8	
274	Great Northern Nekoosa	806	2236	41	4	4	1.5	6	3.1	3588	342	3821	23.1	
275	San Diego Gas & Electric***	812	2215	40	18	18	1.8	14	6.8	2076	189	3533	13.1	
276	Fluor	813	2213	28	56	56	3.7	32	0.6	5132	56	2074	11.4	
277	Northern States Power	814	2212	35	13	13	1.5	11	6.0	2007	215	4495	14.0	
278	Thiokol	818	2202	46	19	19	2.1	19	2.0	2316	159	1920	11.1	
279	NBD Bancorp	820	2199	46	30	30	1.5	9	3.6	NA	227	24170	15.9	
280	Aon	821	2198	34	37	37	1.7	12	4.1	1939	180	8265	14.6	
281	Great Atlantic & Pacific Tea***	822	2196	58	65	65	2.3	17	1.0	10068	128	2640	13.1	
282	Southern New England Tel.	823	2195	72	42	42	2.0	14	4.5	1368	156	2674	14.0	
283	W.F.	825	2192	32	12	12	2.0	12	2.7	2516	184	1760	16.9	
284	Kerr-McGee	827	2187	45	23	23	1.5	17	2.9	2608a	84a	3071	8.8	
285	Columbia Pictures Entertainment	829	2182	20	NA	NA	2.3	994	0.0	1616b	9b	3566	0.2	
286	Price***	830	2181	45	23	23	4.0	20	NA	4140	95	993	19.8	
287	Kemper***	831	2173	38	59	59	1.2	10	2.2	3488	198	12078	12.2	
288	General Public Utilities	834	2169	37	9	9	1.1	8	4.8	2834	284	6415	12.8	

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Dewar's
"White Label" Never Varies



Cottage: Isle of Skye, Scotland
3 br. kitchen, 2 peat burning f.p.
Mt. and ocean vu. Nor for sale.
In family forever.
To Let: Tro

Taste Dewar's Scotland.
Where the good things in life stay that way.



THE GLOBAL 1000

COUNTRY RANK		GLOBAL 1000 RANK	MARKET VALUE U.S. \$ MIL.	PRICE PER SHARE U.S. \$	% CHANGE FROM 1988 (U.S. \$) (LOCAL)	PRICE/BOOK VALUE RATIO	P/E RATIO	YIELD %	SALES U.S. \$ MIL.	PROFITS U.S. \$ MIL.	ASSETS U.S. \$ MIL.	RETURN ON EQUITY %	IND. C.
289	Becton, Dickinson	838	2155	55	8	8	2.2	14	1.8	1709	149	2068	16.0
290	Sysco	839	2145	47	NA	NA	3.9	20	0.8	4385	80	1021	19.6
291	Primerica	843	2137	22	NA	NA	1.5	8	1.3	NA	127	4306	17.6
292	Ingersoll-Rand	845	2129	42	2	2	1.7	13	2.9	3021	162	2483	12.9
293	Torchmark	849	2106	39	NA	NA	2.6	12	3.0	NA	180	4427	21.0
294	Whirlpool	850	2105	30	16	16	1.6	13	3.6	4314	161	3409	12.5
295	Enron	851	2102	44	5	5	1.5	19	5.6	5708	130	8694	8.1
296	Newmont Mining	853	2096	35	-9	-9	NA	105	1.7	500	97	1964	NEG
297	Dover	855	2087	32	-6	-6	3.1	15	2.2	1954	146	1150	21.2
298	Intl. Flavors & Fragrances	857	2081	55	7	7	3.0	16	3.5	840	129	882	18.9
299	Amax	858	2077	25	25	25	1.3	3	3.2	3944	741	4076	44.1
300	Home Depot***	860	2059	41	64	64	5.0	25	0.3	2000	77	699	19.8
301	Litton Industries	867	2040	80	-4	-4	1.7	12	0.0	4864	167	5074	14.4
302	Clorox	868	2040	38	31	31	2.9	14	3.3	1260	133	1156	19.8
303	Lincoln National	874	2032	49	6	6	1.0	16	5.1	5715	147	20960	6.4
304	Shearson Lehman Hutton***	876	2027	20	12	12	1.4	LOSS	3.7	NA	96	84800	NEG
305	Castle & Cooke***	878	2022	34	28	28	2.7	19	0.0	2469	112	1922	14.4
306	Liz Claiborne	880	2019	23	52	52	4.4	17	0.9	1184	110	629	26.2
307	Shawmut National***	882	2013	27	18	18	1.2	8	5.0	NA	243	28414	14.9
308	Baker Hughes	883	2013	17	1	1	2.1	32	2.7	2316	59	2118	6.5
309	Super Valu Stores	885	2011	27	28	28	2.6	15	1.9	10296b	135b	2305	17.4
310	USAir Group	888	2002	46	43	43	1.0	8	0.3	5707	210	5349	11.9
311	US West New Vector Group***	889	2001	39	135	135	12.5	LOSS	0.0	133	-25	307	NEG
312	Geico	890	1999	130	5	5	11.0	11	1.4	1557	189	3060	97.7
313	H. F. Ahmanson	891	1999	20	33	33	1.1	9	4.3	NA	202	40260	11.2
314	Citizens & Southern	893	1990	33	36	36	1.8	10	3.8	NA	206	20440	19.0
315	Boise Cascade	898	1977	44	2	2	1.2	7	3.2	4095	289	3610	17.7
316	Allegheny Power System	899	1975	38	-4	-4	1.3	10	8.2	2170	205	4334	13.2
317	Winn-Dixie Stores	904	1965	49	22	22	2.7	14	3.9	9008	117	1514	18.7
318	Potomac Electric Power	907	1948	21	-4	-4	1.6	10	7.1	1350	211	4147	15.8
319	Westvaco	908	1948	30	6	6	1.7	9	3.1	2134	200	2214	18.0
320	Illinois Tool Works	909	1940	37	1	1	2.6	13	1.3	1930	140	1380	19.6
321	Ryder System	912	1933	24	-8	-8	1.3	11	2.5	5030	135	6039	12.1
322	Columbia Gas System	914	1930	43	39	39	1.2	18	4.7	3129	119	5641	6.8
323	Dillard Department Stores***	920	1921	60	45	45	2.5	16	0.3	2558	114	2068	15.2
324	Wisconsin Energy	921	1920	29	9	9	1.6	11	5.8	1541	183	2849	14.2
325	Household International	922	1916	56	0	0	1.6	11	3.8	NA	184	21030	14.9
326	Avon Products	923	1913	36	48	48	8.6	19	2.8	3063	141	2460	44.8
327	American Stores	924	1910	63	25	25	2.2	25	1.6	18478b	98b	7010	8.6
328	Alltel***	925	1909	45	39	39	2.4	15	3.8	1068	125	2153	16.3
329	Penn Central	926	1909	27	11	11	1.1	11	1.5	1547	94	2401	9.4
330	Freeport-McMoRan	931	1900	36	55	55	3.1	8	6.9	1955	310	3729	37.2
331	Oracle Systems***	937	1891	31	82	82	9.8	30	0.0	282	43	250	33.4
332	Arkla	939	1889	22	NA	NA	2.1	18	4.8	1996	125	3075	11.4
333	Wm. Wrigley Jr.***	940	1885	48	35	35	6.1	20	2.7	891	87	440	20.4
334	Manufacturers Hanover	947	1860	36	24	24	0.7	3	9.0	NA	752	66710	25.2
335	Continental Corp.	948	1859	34	-9	-9	0.8	24	7.6	3860a	123	12150	3.4
336	Bank of Boston	949	1858	27	0	0	1.0	6	4.6	NA	322	36060	17.2
337	E. W. Scripps***	953	1850	24	24	24	2.9	24	1.5	1214	70	1556	12.0
338	Long Island Lighting	954	1849	17	43	43	0.8	7	0.0	2138	298	8326	11.5
339	CoreStates Financial	956	1847	47	23	23	1.6	10	3.6	NA	179	16430	16.4
340	Polaroid	960	1837	40	15	15	2.8	LOSS	1.5	1863	-23	1957	NEG
341	Burlington Northern	963	1827	25	32	32	2.0	9	4.9	4700	207	6330	21.7
342	Safeco	964	1825	29	18	18	1.2	7	4.2	2873	269	7732	16.2
343	Metro Mobile CTS***	968	1818	70	111	111	NA	LOSS	0.0	56	-37	242	NEG
344	Phelps Dodge	969	1815	59	48	48	1.7	4	4.7	2320	420	2755	42.9
345	Vulcan Materials	972	1814	45	20	20	2.9	13	2.5	1053	136	958	21.3
346	Florida Progress***	974	1812	36	3	3	1.4	10	7.2	2002	197	4304	13.1
347	Armstrong World Industries	980	1792	39	7	7	1.8	11	2.7	2680	163	2098	15.7
348	Paccar***	985	1785	50	39	39	1.9	10	5.0	3267	176	2832	19.8
349	Stone Container***	988	1769	30	2	2	1.6	5	2.4	3742	342	2395	32.1
350	Tandem Computers	990	1766	18	4	4	2.1	17	0.0	1315	94	1318	11.9
351	Brown-Forman***	994	1749	63	36	36	3.3	12	2.7	1067	103	932	27.0
352	Brunswick	998	1743	20	-11	-11	1.8	11	2.2	3282	193	2092	16.4
353	Valhi***	1000	1741	15	56	56	5.9	19	0.7	2252	81	2291	13.7

WEST GERMANY

COUNTRY COMPOSITE		151063	271	11	28	3.0	25	3.7	288351	8306	750813	14.1	
1	Daimler-Benz	86	14360	339	-3	12	3.2	10	2.8	36830	839	26024	31.7
2	Siemens	95	13394	274	30	50	1.6	14	3.1	29754	660	29872	11.9
3	Allianz	101	13252	883	14	32	4.7	47	1.1	5312a	189a	14783	10.1
4	Deutsche Bank	143	10082	267	14	32	1.6	NA	3.5	NA	603	152343	NA
5	Bayer	144	9896	156	-3	13	1.4	9	6.0	20280	930	17209	15.4
6	BASF	160	8962	157	7	23	1.5	9	6.0	21984	707	16402	16.9
7	Hoechst	161	8930	159	1	17	2.0	11	5.9	20528	914	15725	19.3
8	RWE	248	6352	147	27	46	1.8	16	4.3	13458	368	19790	11.5
9	VEBA	270	5922	148	4	20	1.3	10	5.8	22516	505	18166	12.1
10	Volkswagen	276	5826	199	37	58	1.1	9	3.9	29677	370	25202	13.1
11	Münchener Rück	337	4994	1037	-6	9	11.6	.70	0.8	5880	30	14062	16.5
12	Dresdner Bank	378	4557	156	14	32	1.2	NA	5.0	NA	225a	103383	NA

Footnotes on page 145

Ticket to Ride.

"Dad talks in smokescreens. Can't ever say what he really feels. Like this morning, getting ready to go. All he could talk about was the car. Did I have the oil checked? How were the brakes? So I told him, I had the Goodwrench guys at the GM dealership took it over. I did, too."

"See, this car is my ticket to the real world. My freedom to go where I want to go. You better believe I'm gonna take care of it. Dad just nodded. But I knew what he was saying."

Your car is an important part of everything you do, whether it's a shopping expedition to the mall or striking out on your own. That's why it's important to take it to Mr. Goodwrench.

No one else has the GM factory training, the experience, the genuine GM parts that Mr. Goodwrench has.

So whether it's a Chevrolet, Pontiac, Oldsmobile, Buick, Cadillac or GMC Truck, bring it to Mr. Goodwrench. You'll find him at over 7200 General Motors dealerships coast to coast.



Mr. Goodwrench

It's not just a car... it's your freedom.



THE GLOBAL 1000

COUNTRY RANK		GLOBAL 1000 RANK	MARKET VALUE U.S. \$ MIL.	PRICE PER SHARE U.S. \$	% CHANGE FROM 1988 (U.S. \$) (LOCAL)		PRICE/BOOK VALUE RATIO	P/E RATIO	YIELD %	SALES U.S. \$ MIL.	PROFITS U.S. \$ MIL.	ASSETS U.S. \$ MIL.	RETURN ON EQUITY %	IND. CT
13	BMW	430	4070	271	-9	5	2.6	15	3.6	9172a	188a	5174	18.0	4
14	Thyssen	443	4008	128	59	84	2.0	10	4.6	14643	319	9699	20.1	2
15	Mannesmann	563	3185	123	43	65	1.7	43	4.1	10234	107a	6742	3.9	3
16	Henkel	611	2960	250	NA	NA	2.4	16	2.7	5138	162	3729	14.8	4
17	Mercedes-Automobil Holding	636	2868	268	-4	10	2.7	NA	3.5	NA	65	1117	NA	4
18	Bayerische Hypotheken	645	2829	188	-2	13	1.5	NA	5.2	NA	125	67652	NA	6
19	Commerzbank	679	2707	120	-5	10	1.0	NA	5.9	NA	224	90203	NA	8
20	Bayerische Vereinsbank	756	2410	186	2	18	1.3	NA	5.5	NA	128	81383	NA	6
21	Deutsche Lufthansa	842	2142	90	8	25	2.0	40	3.5	5545a	44a	4417	5.0	5
22	Linde*	852	2097	364	1	17	2.7	21	2.8	1786	62	1404	12.7	3
23	Nixdorf Computer	897	1978	162	-45	-37	1.3	13	1.9	2676	129a	2410	9.9	3
24	Kaufhof	901	1974	238	7	24	2.7	37	2.8	5064	38	2260	7.4	5
25	AEG	905	1960	105	-12	1	2.1	NA	1.8	6705	14	4699	NA	3
26	MAN	916	1925	150	43	65	2.0	19	3.4	7498	90	6897	10.2	3
27	VIAG	934	1898	164	35	57	1.8	13	3.6	4746	88a	4677	14.0	7
28	Schering	938	1889	334	16	35	1.9	21	2.8	2642	79	2807	8.9	4
29	Karstadt	945	1869	260	0	16	2.6	25	2.7	5981a	86a	2354	10.2	5
30	Rheinelektra*	987	1769	804	37	58	24.0	76	1.1	301	18	230	31.5	3

OTHER MARKETS AROUND THE WORLD

The Global 1000 ranking excludes companies from countries where stock markets are largely closed to foreign investors and where major corporations are often privately owned. Many of

these companies are significant global competitors, and the list below includes those companies where annual revenues for the most recent fiscal year are over \$1 billion.

Company	Sales U.S. \$ Bil.	Profits U.S. \$ Mil.
SOUTH KOREA		
SAMSUNG (Trading)	9.95	15.9
HYUNDAI (Trading)	8.21	12.6
DAEWOO (Trading)	6.91	47.4
POHANG IRON & STEEL	5.41	196.4
HYUNDAI MOTOR	4.98	62.0
SAMSUNG ELECTRONICS	4.42	148.3
GOLDSTAR	4.12	26.6
LUCKY GOLDSTAR INT'L. (Trading)	3.95	15.4
HYUNDAI HEAVY INDUSTRIES†	3.87	63.8
YUKONG	3.45	91.1
SUNKYONG (Trading)	2.53	25.4

Company	Sales U.S. \$ Bil.	Profits U.S. \$ Mil.
KOREAN AIR		
SSANGYONG (Trading)	2.14	24.7
KIA MOTOR	2.07	34.5
LUCKY (Chemicals)	1.77	93.4
DAEWOO ELECTRONICS	1.62	26.1
HYOSONG (Trading)	1.54	1.5
DAEWOO MOTOR†	1.53	N/A
DONG-A CONSTRUCTION IND.	1.22	9.1
DAELIM INDUSTRIAL	1.13	12.3
CHEIL SUGAR	1.00	6.9
TAIWAN		
CATHAY LIFE INSURANCE	2.53	86.0

Company	Sales U.S. \$ Bil.	Profits U.S. \$ Mil.
HAN YA PLASTICS		
CHINA STEEL	1.61	4
FORMOSA PLASTICS	1.18	1
TATUNG	1.04	
BRAZIL†		
PAO DE ACUCAR	2.02	
PETROLEO IPIRANGA	1.87	1
VARIG BRAZILIAN AIRLINES	1.58	
ANDRADE GUTIERREZ	1.31	
MEXICO		
ALFA	1.80	4

DATA: BW

†Privately held, unlisted ‡Fiscal 1987

KEY TO INDUSTRY CODES

Bold single digit represents broad economic sector as defined by Morgan Stanley Capital International. Double digit is industry classification code within each economic sector.

1. ENERGY

- 11. Energy sources
- 12. Electric & gas utilities

2. MATERIALS

- 21. Building materials & components
- 22. Chemicals
- 23. Forest products & paper
- 24. Nonferrous metals
- 25. Steel
- 26. Misc. materials & commodities

3. CAPITAL EQUIPMENT

- 31. Aerospace & military technology
- 32. Construction & housing

33. Data processing & reproduction

- 34. Electrical & electronics
- 35. Electronic components & instruments
- 36. Energy equipment & services
- 37. Industrial components
- 38. Machinery & engineering

4. CONSUMER GOODS

- 41. Appliances & household durables
- 42. Automobiles
- 43. Beverages & tobacco
- 44. Food & household products
- 45. Health & personal care
- 46. Recreation & other consumer goods
- 47. Textiles & apparel

5. SERVICES

- 51. Broadcasting & publishing
- 52. Business & public services
- 53. Leisure & tourism
- 54. Merchandising
- 55. Telecommunications
- 56. Airlines
- 57. Road & rail transportation
- 58. Shipping
- 59. Wholesale & international trade

6. FINANCE

- 61. Banking
- 62. Financial services
- 63. Insurance
- 64. Real estate

7 & 8. OTHER

- 71. Multi-industry
- 81. Gold mines

PHABETICAL LIST OF COMPANIES

Number preceding each company is its Global 1000 rank. The code following each company shows its nationality and rank within that nation. For the statistics for a company, turn to the country listing and look for the company by its rank.

Life Group (BR-61) Laboratories (US-35) antest (JA-320) S (WG-25) na Life & Casualty (US-88) na (SWE-17) nt (NE-11) nson (H.F.) (US-313) Liquide (L.) (FR-13) Products & Chemicals (US-262) n Seki (JA-246) omoto (JA-61) o (NE-5) rson's (US-208) n Aluminum (CA-6) rrene Bank Nederland (NE-7) Nippon Airways (JA-39) anza Assicurazioni (IT-13) gheny Power System (US-316) inz (WG-3) ld-Lyons (BR-24) ld-Signal (US-117) h (US-328) Electric (JA-313) nium Co. of America (US-101) ado (JA-209) sx (US-299) Jahi (US-248) randa Hess (US-200) rican Brands (US-83) rican Cyanamid (US-126) rican Electric Power (US-111) rican Express (US-33) rican General (US-139) rican Home Products (US-32) rican International Group (US-34) rican Stores (US-327) rican Telephone & Telegraph (US-4) rican TV & Communications (US-116) ritsch (US-26) ico (US-11) o (US-135) o (US-165) o Bank (NE-8) lo American (SA-3) euer Busch (US-41) G Group Holdings (AU-7) i (JA-203) le Computer (US-95) ian Oil (JA-290) ter Daniels Mudland (US-121) o Chemical (US-173) /l Group (BR-50) o (US-332) strong World Industries (US-347) ni Breweries (JA-159) hi Chemical Industry (JA-65) ni Glass (JA-32) JA Group (BR-46) A (SWE-3) AABB Brown Boveri (SWE/SWI-NR) Kagoh Bank (JA-174) and Oil (US-247) nd (SP-11) curazioni Generali (IT-1) ciated British Foods (BR-69) a (SWE-9) nic Richfield (US-15) mistic Data Processing (US-215) n Products (US-326)	207 Beecham Group (BR-14) 62 Bell Atlantic (US-20) 32 BellSouth (US-9) 205 Berkshire Hathaway (US-66) 601 BET (BR-48) 875 BICC (BR-84) 808 Blue Circle Industries (BR-78) 430 BMW (WG-13) 509 BOC Group (BR-38) 114 Boeing (US-40) 898 Boise Cascade (US-315) 421 Boots (BR-31) 943 Boral (AU-13) 348 Borden (US-127) 910 Brascan (CA-26) 175 Bridgestone (JA-96) 85 Bristol-Myers (US-30) 688 British Aerospace (BR-63) 799 British Airways (BR-77) 121 British Gas (BR-8) 33 British Petroleum (BR-2) 669 British Steel (BR-60) 31 British Telecom (BR-31) 164 Broken Hill Proprietary (AU-1) 903 Brother Industries (JA-327) 330 Browning-Ferris Industries (US-120) 994 Brown-Forman (US-351) 998 Brunswick (US-352) 298 BSN (Group) (FR-4) 145 BTR (BR-10) 456 BTR Nylax (AU-3) 963 Burlington Northern (US-341) 231 Burlington Resources (US-78) 959 Burton Group (BR-91) 92 B.A.T. Industries (BR-5)	513 Corning (US-177) 467 Cosmo Oil (JA-194) 854 Courtaulds (BR-81) 376 CPC International (US-133) 464 CRA (AU-5) 788 Credit Lyonnais (FR-25) 807 Credito Italiano (IT-12) 244 CS Holding (SWI-6) 798 CSX (AU-12) 502 CSX (US-170)	129 Fuji Photo Film (JA-70) 617 Fujikura (JA-248) 481 Fujisawa Pharmaceutical (JA-202) 267 Fujita Corp. (JA-126) 761 Fujita Tourist Enterprises (JA-291) 51 Fujitsu (JA-33) 886 Fukuoka City Bank (JA-323) 687 Fukuyama Transporting (JA-265) 278 Furukawa Electric (JA-129)	845 Ingersoll-Rand (US-292) 272 Intel (US-94) 991 Intercom (BE-5) 6 International Business Machines (US-1) 857 Infl. Flavors & Fragrances (US-298) 302 International Paper (US-106) 392 International Thomson Org. (CA-8) 997 Investor (SWE-19) 492 Isetan (JA-206) 136 Ishikawajima-Harima Heavy (JA-77) 240 Isuzu Motors (JA-116) 154 Itoh (C.) (JA-86) 811 Itohoh Foods (JA-308) 324 Ito-Yokado (JA-80) 213 IIT (US-69) 977 Iwatani International (JA-341)	
Life Group (BR-61) Laboratories (US-35) antest (JA-320) S (WG-25) na Life & Casualty (US-88) na (SWE-17) nt (NE-11) nson (H.F.) (US-313) Liquide (L.) (FR-13) Products & Chemicals (US-262) n Seki (JA-246) omoto (JA-61) o (NE-5) rson's (US-208) n Aluminum (CA-6) rrene Bank Nederland (NE-7) Nippon Airways (JA-39) anza Assicurazioni (IT-13) gheny Power System (US-316) inz (WG-3) ld-Lyons (BR-24) ld-Signal (US-117) h (US-328) Electric (JA-313) nium Co. of America (US-101) ado (JA-209) sx (US-299) Jahi (US-248) randa Hess (US-200) rican Brands (US-83) rican Cyanamid (US-126) rican Electric Power (US-111) rican Express (US-33) rican General (US-139) rican Home Products (US-32) rican International Group (US-34) rican Stores (US-327) rican Telephone & Telegraph (US-4) rican TV & Communications (US-116) ritsch (US-26) ico (US-11) o (US-135) o (US-165) o Bank (NE-8) lo American (SA-3) euer Busch (US-41) G Group Holdings (AU-7) i (JA-203) le Computer (US-95) ian Oil (JA-290) ter Daniels Mudland (US-121) o Chemical (US-173) /l Group (BR-50) o (US-332) strong World Industries (US-347) ni Breweries (JA-159) hi Chemical Industry (JA-65) ni Glass (JA-32) JA Group (BR-46) A (SWE-3) AABB Brown Boveri (SWE/SWI-NR) Kagoh Bank (JA-174) and Oil (US-247) nd (SP-11) curazioni Generali (IT-1) ciated British Foods (BR-69) a (SWE-9) nic Richfield (US-15) mistic Data Processing (US-215) n Products (US-326)	162 Cable & Wireless (BR-11) 521 Cadbury Schweppes (BR-39) 282 Campbell Soup (US-99) 415 Canadian Imperial Bank (CA-9) 268 Canadian Pacific (CA-9) 932 Canal Plus (FR-28) 188 Canon (JA-102) 962 Cap Gemini Sogeti (FR-31) 221 Capital Cities/ABC (US-72) 915 Carlton Communications (BR-87) 585 Carolina Power & Light (US-204) 656 Carrefour (FR-20) 686 Casio Computer (JA-264) 878 Castle & Cooke (US-305) 241 Caterpillar (US-81) 529 Cathay Pacific Airways (HK-5) 329 CBS (US-119) 648 Centel (US-219) 762 Centor Energy (US-257) 562 Central & South West (US-199) 354 Champion International (US-196) 549 Chase Manhattan (US-193) 791 Chemical Bank (US-268) 724 Chemical Waste Management (US-183) 114 Cheung Kong Holdings (HK-7) 52 Chevron (US-16) 264 Chiba Bank (JA-124) 772 China Light & Power (HK-9) 774 Chiyoda Corp. (JA-295) 759 Chiyoda Fire & Marine (JA-289) 294 Chrysler (US-104) 647 Chubb (US-218) 37 Chubu Electric Power (JA-23) 607 Chugai Pharmaceutical (JA-242) 657 Chugoku Bank (JA-258) 151 Chugoku Electric Power (JA-84) 159 Ciba-Geigy (SWI-2) 391 Cigna (US-143) 140 Citicorp (US-45) 712 Citizen Watch (JA-270) 893 Citizens & Southern (US-314) 868 Clorox (US-302) 764 CMS Energy (US-259) 398 CNA Financial (US-144) 750 Coastal (US-253) 39 Coca-Cola (US-12) 747 Coca-Cola Enterprises (US-251) 505 Coles Myer (AU-8) 505 Colgate-Palmolive (US-172) 914 Columbia Gas System (US-322) 829 Columbia Pictures (US-285) 753 Commercial Union Assurance (BR-71) 679 Commerzbank (WG-19) 190 Commonwealth Edison (US-59) 483 Compaq Computer (US-163) 551 Computer Associates Intl. (US-195) 695 ConAgra (US-232) 290 Consolidated Edison of N.Y. (US-103) 427 Consolidated Gold Fields (SA-2) 496 Consolidated Natural Gas (US-169) 703 Consolidated Rail (US-237) 382 Contel (US-136) 642 Contel Cellular (US-217) 948 Continental Corp. (US-335) 951 Cookson Group (BR-89) 547 Cooper Industries (US-192) 956 CoreStates Financial (US-339)	119 Dai Nippon Printing (JA-64) 680 Daicel Chemical Industries (JA-263) 349 Daido Steel (JA-150) 234 Daiei (JA-112) 368 Daiichi Seiyaku (JA-161) 540 Daikin Industries (JA-220) 731 Daiyoku Kanko (JA-278) 863 Daimaru (JA-318) 86 Daimler-Benz (WG-1) 356 Dainippon Ink & Chemicals (JA-155) 730 Dainippon Pharmaceutical (JA-277) 435 Daishowa Paper (JA-184) 69 Daiwa Bank (JA-42) 236 Daiwa House Industry (JA-113) 49 Daiwa Securities (JA-31) 5 Dai-ichi Kangyo Bank (JA-5) 600 Dai-Tokyo Fire & Marine (JA-238) 840 Dampskibsselskabet AF 1912 (DE-1) 848 Dampskibsselskabet Svendborg (DE-2) 374 Dayton Hudson (US-132) 295 De Beers (SA-1) 385 Deere (US-137) 523 Delta Air Lines (US-182) 739 Delux (US-249) 589 Denki Kagaku Kogyo (JA-235) 619 Detroit Edison (US-212) 143 Deutsche Bank (WG-4) 842 Deutsche Lufthansa (WG-21) 866 Development Bank of Singapore (SM-3) 123 Digital Equipment (US-43) 920 Dillard Department Stores (US-323) 112 Dineen (Walt) (US-39) 396 Dominion Resources (US-142) 530 Donnelley (US-184) 928 Dortsche Petroleum (NE-9) 855 Dover (US-297) 63 Dow Chemical (US-21) 491 Dow Jones (US-166) 378 Dresdner Bank (WG-12) 694 Dresser Industries (US-231) 973 Driefontein Consolidated (SA-4) 832 DSM (NE-6) 28 Du Pont (US-7) 351 Duke Power (US-128) 169 Dun & Bradstreet (US-52)	84 Eastman Kodak (US-29) 790 Eaton (US-267) 408 Ebara (JA-176) 873 EBEF (BE-6) 548 Eisai (JA-223) 508 Eldec (AU-6) 929 Electrofrina (BE-9) 501 Electrolux (SWE-6) 683 Electronic Data Systems (US-226) 179 Elf Aquitaine (FI-1) 946 Elsevier (NE-10) 182 Emerson Electric (US-57) 741 Emhart (US-250) 364 Endesa (SP-5) 851 Enron (US-295) 667 Enterprise Oil (BR-58) 635 Ericsson (L.M.) (SWE-8) 857 Ethyl (US-205) 283 Eurotunnel (FR-FR-NR) NR Eurotunnel (London) (BR-57) NR Eurotunnel (Paris) (FR-18) 8 Exxon (US-2)	787 Iberduero (SP-9) 909 Illinois Tool Works (US-320) 595 Imasco (CA-15) 94 Imperial Chemical Industries (BR-6) 189 Imperial Oil (CA-2) 716 Inax (JA-271) 595 Inco (CA-2) 2 Industrial Bank of Japan (JA-2)	781 Jacobs Suchard (SWI-12) 754 James River Corp. of Virginia (US-254) 533 Janome Sewing Machine (JA-217) 530 Japan Air Lines (JA-35) 570 Japan Steel Works (JA-227) 810 Japan Synthetic Rubber (JA-307) 68 Johnson & Johnson (US-23) 324 Joys Bank (JA-144) 384 Joys Paper (JA-167) 442 Jusco (JA-186)
(BR-32) r Hughes (US-308) imore Gas & Electric (US-255) o One (US-174) o Commerciale Italiana (IT-9) o Bilbao Vizcaya (SP-1) o Central (SP-7) o de Santander (SP-3) o Espanol de Credito (SP-6) o Hispano Americano (SP-8) o Popular Espana (SP-10) o of Boston (US-336) o of Fukuoka (JA-192) o of Kyoto (JA-218) o of Montreal (CA-19) o of Nova Scotia (CA-22) o of Tokyo (JA-22) o of Yokohama (JA-79) America (US-113) kers Trust New York (US-159) ye Nationale de Paris (FR-16) yu Pharmaceutical (JA-249) lays (BR-12) ett Banks (US-266) F (WG-6) F (BR-25) ter Travenol Laboratories (US-109) er (WG-5) rische Hypotheken (WG-18) rische Vereinsbank (WG-20) Brown Boveri (5) (SWI-9) (Bell Canada Enterprises) (CA-1) on, Dickinson (US-289)	162 Cable & Wireless (BR-11) 521 Cadbury Schweppes (BR-39) 282 Campbell Soup (US-99) 415 Canadian Imperial Bank (CA-9) 268 Canadian Pacific (CA-9) 932 Canal Plus (FR-28) 188 Canon (JA-102) 962 Cap Gemini Sogeti (FR-31) 221 Capital Cities/ABC (US-72) 915 Carlton Communications (BR-87) 585 Carolina Power & Light (US-204) 656 Carrefour (FR-20) 686 Casio Computer (JA-264) 878 Castle & Cooke (US-305) 241 Caterpillar (US-81) 529 Cathay Pacific Airways (HK-5) 329 CBS (US-119) 648 Centel (US-219) 762 Centor Energy (US-257) 562 Central & South West (US-199) 354 Champion International (US-196) 549 Chase Manhattan (US-193) 791 Chemical Bank (US-268) 724 Chemical Waste Management (US-183) 114 Cheung Kong Holdings (HK-7) 52 Chevron (US-16) 264 Chiba Bank (JA-124) 772 China Light & Power (HK-9) 774 Chiyoda Corp. (JA-295) 759 Chiyoda Fire & Marine (JA-289) 294 Chrysler (US-104) 647 Chubb (US-218) 37 Chubu Electric Power (JA-23) 607 Chugai Pharmaceutical (JA-242) 657 Chugoku Bank (JA-258) 151 Chugoku Electric Power (JA-84) 159 Ciba-Geigy (SWI-2) 391 Cigna (US-143) 140 Citicorp (US-45) 712 Citizen Watch (JA-270) 893 Citizens & Southern (US-314) 868 Clorox (US-302) 764 CMS Energy (US-259) 398 CNA Financial (US-144) 750 Coastal (US-253) 39 Coca-Cola (US-12) 747 Coca-Cola Enterprises (US-251) 505 Coles Myer (AU-8) 505 Colgate-Palmolive (US-172) 914 Columbia Gas System (US-322) 829 Columbia Pictures (US-285) 753 Commercial Union Assurance (BR-71) 679 Commerzbank (WG-19) 190 Commonwealth Edison (US-59) 483 Compaq Computer (US-163) 551 Computer Associates Intl. (US-195) 695 ConAgra (US-232) 290 Consolidated Edison of N.Y. (US-103) 427 Consolidated Gold Fields (SA-2) 496 Consolidated Natural Gas (US-169) 703 Consolidated Rail (US-237) 382 Contel (US-136) 642 Contel Cellular (US-217) 948 Continental Corp. (US-335) 951 Cookson Group (BR-89) 547 Cooper Industries (US-192) 956 CoreStates Financial (US-339)	84 Eastman Kodak (US-29) 790 Eaton (US-267) 408 Ebara (JA-176) 873 EBEF (BE-6) 548 Eisai (JA-223) 508 Eldec (AU-6) 929 Electrofrina (BE-9) 501 Electrolux (SWE-6) 683 Electronic Data Systems (US-226) 179 Elf Aquitaine (FI-1) 946 Elsevier (NE-10) 182 Emerson Electric (US-57) 741 Emhart (US-250) 364 Endesa (SP-5) 851 Enron (US-295) 667 Enterprise Oil (BR-58) 635 Ericsson (L.M.) (SWE-8) 857 Ethyl (US-205) 283 Eurotunnel (FR-FR-NR) NR Eurotunnel (London) (BR-57) NR Eurotunnel (Paris) (FR-18) 8 Exxon (US-2)	787 Iberduero (SP-9) 909 Illinois Tool Works (US-320) 595 Imasco (CA-15) 94 Imperial Chemical Industries (BR-6) 189 Imperial Oil (CA-2) 716 Inax (JA-271) 595 Inco (CA-2) 2 Industrial Bank of Japan (JA-2)	451 Ladbroke Group (BR-36) 592 Lafarge Coppee (FR-17) 592 Laidlaw Transportation (CA-17) 366 Land Securities (BR-28) 797 Legal & General Group (BR-76) 79 Lilly (EI) (US-28) 288 Limited (US-102) 314 LIN Broadcasting (US-115) 874 Lincoln National (US-303) 852 Lindt (WG-22) 867 Liron Industries (US-301) 880 Lix Claiborne (US-306) 404 Loyds Bank (BR-29) 634 Lockheed (US-216) 178 Loews (US-55) 954 Long Island Lighting (US-338) 22 Long-Term Credit Bank of Japan (JA-16) 779 Lomha (BR-74) 211 LVMH Moët Hennessy (FR-2)	
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THE GLOBAL 1000

ALPHABETICAL LIST OF COMPANIES

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417 Rhone-Poulenc (FR-12)
297 Ricoh (JA-136)
792 RMC Corp. (BR-75)
275 Rockwell International (US-97)
780 Rohm & Haas (US-263)
771 Rolls Royce (BR-73)
497 Rothmans International (BR-66)
355 Royal Bank of Canada (CA-7)
893 Royal Bank of Scotland Group (BR-92)
NR Royal Dutch Petroleum (NE-1)
10 Royal Dutch/Shell Group (BR/NE-NR)
610 Royal Indemnity (BR-49)
999 Royale Belge (BE-7)
254 RTZ (BR-20)
804 Rubbermaid (US-272)
248 RWE (WG-8)
912 Ryder System (US-321)

S

713 Saab-Scania (SWE-13)
964 Safeco (US-342)
444 Sagami Railway (JA-187)
979 SAI (IT-15)
289 Sainsbury (J.) (BR-22)
316 Saint-Gobain (FR-5)
133 Saitama Bank (JA-74)
519 Salomon (US-180)
812 San Diego Gas & Electric (US-275)
200 Sandoz (SWI-4)
676 Sandvik (SWE-12)
257 Sanyo (JA-121)
887 Sanofi (FR-27)
847 Santa Fe Southern Pacific (US-168)
13 Sanwa Bank (JA-9)
108 Sanyo Electric (JA-59)
495 Sanyo-Kokusaku Pulp (JA-208)
240 Sapporo Breweries (JA-179)
260 Sasei (US-90)
394 Sato Kogyo (JA-169)
197 SCEcorp (US-62)
938 Schering (WG-28)
202 Schering-Plough (US-63)
150 Schlenkerberg (US-48)
659 Schweiz. Ruck. (SWI-10)
514 Scott Paper (US-178)
953 Scripps (E. W.) (US-337)
208 Seagram (CA-3)
668 Sears (BR-59)
59 Sears, Roebuck (US-17)
546 Secom (JA-222)
339 Security Pacific (US-123)
999 Sedgwick Group (BR-93)
76 Seibu Railway (JA-93)
742 Seino Transportation (JA-282)
705 Seiyu (JA-267)
354 Sekisui Chemical (JA-154)
198 Sekisui House (JA-105)
692 Seventy Seven Bank (JA-266)
153 Seven-Eleven Japan (JA-85)
147 Sharp (JA-82)
882 Shawmut National (US-307)
876 Shearson Lehman Hutton (US-304)
118 Shell Canada (CA-10)
NR Shell Transport & Trading (BR-3)
223 Shikoku Electric Power (JA-109)
650 Shimadzu (JA-257)
126 Shimizu Construction (JA-68)
411 Shin-Etsu Chemical (JA-177)
455 Shionogi (JA-190)
532 Shiseido (JA-216)
246 Shizuoka Bank (JA-119)
177 Showa Denko (JA-302)

941 Showa Electric Wire & Cable (JA-331)
930 Showa Line (JA-330)
658 Showa Shell Sekiyu (JA-259)
95 Siemens (WG-2)
911 Sime Darby (Malaysia) (SM-4)
409 Singapore Airlines (SM-1)
564 SIP (IT-8)
864 Skandia (SWE-15)
495 Skandinaviska Enskilda Banken (SWE-5)
347 Skanska (SWE-2)
662 SKF (SWE-10)
859 Smith & Nephew Associated (BR-82)
191 SmithKline Beckman (US-60)
733 Snow Brand Milk Products (JA-279)
412 Societe Generale (FR-11)
599 Solvay (BE-4)
77 Sony (JA-46)
976 Southam (CA-30)
180 Southern Co. (US-56)
823 Southern New England Tele. (US-282)
77 Southwestern Bell (US-27)
794 Sorran Financial (US-269)
186 Squibb (US-58)
393 Standard Chartered (BR-88)
565 STC (BR-43)
371 STET (IT-3)
988 Stone Container (US-349)
479 Stora Kopparbergs Bergslags (SWE-4)
486 Student Loan Marketing Assn. (US-164)
773 St. Paul (US-261)
319 Suez (Cie Financiere de) (FR-7)
3 Sumitomo Bank (JA-3)
978 Sumitomo Cement (JA-342)
131 Sumitomo Chemical (JA-72)
173 Sumitomo Corp. (JA-95)
199 Sumitomo Electric Industries (JA-106)
362 Sumitomo Heavy Industries (JA-158)
340 Sumitomo Marine & Fire (JA-139)
56 Sumitomo Metal Industries (JA-37)
395 Sumitomo Metal Mining (JA-170)
360 Sumitomo Realty & Dev. (JA-157)
38 Sumitomo Trust & Banking (JA-24)
387 Sun (US-138)
527 Sun Alliance & London Insurance (BR-40)
846 Sun Hung Kai Properties (HK-10)
588 SunTrust Banks (US-206)
885 Super Valu Stores (US-309)
752 Suzuki Motor (JA-287)
594 Svenska Cellulosa Aktiebolaget (SWE-7)
476 Swire Pacific (HK-4)
293 Swiss Bank Corp. (SWI-7)
299 Syntex (US-105)
833 Sysco (US-290)

T

118 Taisei (JA-63)
245 Taisho Marine & Fire Insurance (JA-118)
333 Taisho Pharmaceutical (JA-153)
966 Taiyo Fishery (JA-337)
65 Taiyo Kasei Bank (JA-40)
369 Takashimaya (JA-162)
83 Takeda Chemical Industries (JA-49)
703 Tanabe Seiyaku (JA-239)
990 Tandem Computers (US-350)
459 Tandy (US-158)
485 Tarmac (BR-38)
388 TDK (JA-168)
271 Teijin (JA-127)
856 Teikoku Oil (JA-316)
445 Teledyne (US-155)
214 Telefonica Nacional de Espana (SP-2)
252 Tele-Communications (US-86)
230 Tenneco (US-77)
768 Terumo (JA-293)
414 Tesco (BR-30)
110 Texaco (US-37)
436 Texaco Canada (CA-12)
665 Texas Eastern (US-223)
493 Texas Instruments (US-167)
333 Texas Utilities (US-122)
734 Textron (US-246)
818 Thiokol (US-278)
480 Thomson Newspapers (CA-13)
475 Thomson-CSF (FR-14)
596 Thon EMI (BR-47)
443 Thyssen (WG-14)
218 Time (US-70)
325 Times Mirror (US-118)
195 Tosa Nanyo Kogyo (JA-103)
809 Tobishima (JA-306)
167 Toho Railway (JA-92)
777 Toho Co. (JA-297)
597 Toho Gas (JA-230)
103 Tohoku Electric Power (JA-55)
23 Tokai Bank (JA-17)
43 Tokai Marine & Fire (JA-28)
646 Tokyo Broadcasting System (JA-255)
641 Tokyo Electric (JA-317)
9 Tokyo Electric Power (JA-7)
769 Tokyo Electron (JA-294)
44 Tokyo Gas (JA-27)
942 Tokyo Sowa Bank (JA-332)
487 Tokyo Steel Mfg. (JA-204)
795 Tokyotokeiba (JA-302)

105 Tokyu Corp. (JA-57)
729 Tokyu Department Stores (JA-5)
500 Tokyu Land (JA-210)
165 Toppant Printing (JA-90)
146 Toray Industries (JA-81)
849 Torchmark (US-293)
326 Toronto-Dominion Bank (CA-5)
20 Toshiba (JA-14)
649 Tosoh Corp. (JA-256)
631 Total Francaise Petroles (FR-19)
320 Toto (JA-142)
981 Toyo Ink Mfg. (JA-343)
468 Toyo Menka Kaisha (JA-195)
258 Toyo Sash (JA-122)
544 Toyo Seikan Kaisha (JA-221)
149 Toyo Trust & Banking (JA-83)
405 Toyobo (JA-173)
473 Toyota Automatic Loom Works
11 Toyota Motor (JA-8)
253 Toys 'R' Us (US-87)
526 Tracelabel (BE-3)
705 Trafalgar House (BR-51)
720 Transamerica (US-235)
937 TransCanada Pipelines (CA-29)
432 Travelers (US-148)
512 Tribune (US-176)
681 Trizec (CA-23)
428 Trusthouse Forte (BR-33)
671 TRW (US-224)
693 TSB Group (BR-64)

U

629 UAL (US-229)
381 Ube Industries (JA-143)
66 Unilever (BR/NE-NR)
NR Unilever NV (NE-2)
NR Unilever PLC (BR-19)
561 Union Bank of Finland (FI-1)
201 Union Bank of Switzerland (SV)
698 Union Camp (US-233)
482 Union Carbide (US-162)
707 Union Electric (US-239)
176 Union Pacific (US-54)
413 Unisys (US-148)
824 United Biscuits (Holdings) (BR-7)
235 United Technologies (US-79)
220 United Telecommunications (US)
677 Unisys (JA-262)
312 Unocal (US-114)
765 Uny (JA-292)
274 Upjohn (US-96)
111 US West (US-38)
889 US West NewVector Group (US)
688 USAir Group (US-310)
684 USF&G (US-227)
675 UST (US-225)
158 USX (US-50)

V

1000 Valhi (US-353)
270 VEGA (WG-9)
823 VFF (US-283)
924 VIAG (WG-27)
776 Victoire (Groupe) (FR-24)
434 Victor Co. of Japan (JA-183)
276 Volkswagen (WG-10)
322 Volvo (SWE-1)
972 Vulcan Materials (US-345)

W

710 Walgreen (US-240)
40 Wal-Mart Stores (US-13)
203 Warner Communications (US-64)
259 Warner-Lambert (US-89)
556 Washington Post (US-198)
120 Waste Management (US-42)
263 Wellcome (BR-21)
441 Wells Fargo (US-154)
566 Western Mining (AU-9)
157 Westinghouse Electric (US-49)
450 Westpac Banking (AU-24)
908 Westvaco (US-319)
21 Weyerhaeuser (US-91)
870 Wharf Holdings (HK-11)
530 Whirlpool (US-294)
770 Whitebread (BR-72)
504 Whitman (US-171)
904 Winn-Dixie Stores (US-317)
663 Winterthur (SWI-11)
443 Thyssen (WG-14)
218 Time (US-70)
325 Times Mirror (US-118)
195 Tosa Nanyo Kogyo (JA-103)
809 Tobishima (JA-306)
167 Toho Railway (JA-92)
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769 Tokyo Electron (JA-294)
44 Tokyo Gas (JA-27)
942 Tokyo Sowa Bank (JA-332)
487 Tokyo Steel Mfg. (JA-204)
795 Tokyotokeiba (JA-302)

XYZ

238 Xerox (US-80)
789 Yakult Honsha (JA-300)
737 Yamaha Corp. (JA-280)
783 Yamaha Motor (JA-298)
81 Yamaichi Securities (JA-48)
227 Yamaguchi Pharmaceutical (JA)
552 Yamato Transport (JA-224)
745 Yamazaki Baking (JA-283)
184 Yasuda Fire & Marine (JA-100)
93 Yasuda Trust & Banking (JA-52)
515 Yokogawa Electric (JA-211)
535 Yokohama Rubber (JA-312)
996 Yuasa Battery (JA-345)
402 Zurich Swiss (SWI-8)

NM = not meaningful. NR = not ranked

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EDITED BY MARC FRONS

Travel

PUTTING AMTRAK'S BEST TO THE TEST



THE COAST STARLIGHT: ITS OBSERVATION DECK OFFERS SPECTACULAR VIEWS AS THE TRAIN MAKES ITS WAY FROM LOS ANGELES TO SEATTLE

Once near extinction, long-distance train travel is booming, with trips booked months in advance. To investigate, BW correspondents took to the rails (first class, of course). Their reports:

THE COAST STARLIGHT

As the train emerges from the Los Angeles smog, tract-home suburbia quickly gives way to desert hills. But just when you've grown used to that, the crashing Pacific surf swings into view. Farther up, the train veers inland amid the snowy Cascade Range and lush Northwestern forests. For sheer diversity of landscape, there's nothing like the Coast Starlight's 33-hour haul to Seattle.

For train buffs, this journey is bliss. For someone expecting luxury, the amenities that a \$523 one-way ticket buys fall short of deluxe. The small private compartments tend to reek of cigarette smoke. Plus, Amtrak's

growing popularity and inability to expand fast enough often result in crowded cars.

But then, there's that view. At times, the Starlight hugs the coast so closely that passengers can see the spray blowing off the crest of each wave that curls around huge offshore rocks. During breakfast, the train snakes through Oregon's Willamette Pass, where waterfalls tumble into deep gorges beside the tracks—so high up that winter's snow lingers in patches between the pines.

The observation area on the lounge car's upper deck offers spectacular views of all this. Unfortunately, video-

taped movies coincide with prime sunset-watching time.

There's more disappointment in the dining car, especially for passengers who remember the era of linen-draped tables and gleaming china. "You felt like you were dining, not just eating," recalls Mildred Smith of Van Nuys, Calif. Surveying her slightly burned hash browns on a disposable plastic plate, she adds: "This isn't it."

First class offers compensations, though. Sleeping-car steward Eugene Montgomery, who entertains travelers with magic tricks, delivers snacks and wine as the train departs, offering to fetch a

nightcap from the lounge and, first thing the next morning, brings coffee and paper to each compartment.

He also warns about the deluxe bedroom's shower stall which double as toilets: Most takenly hit the button that's right next to the flush button and you get an unexpected drenching. The shower itself is a bit primitive—20-second spurts of slowly warming water—but it beats starting the second day of travel without one.

Kathleen Kern

THE CALIFORNIA ZEPHYR

It's easy to see why this Chicago-to-Oakland trip is called America's most scenic train.

HOLLYWOOD'S LONG ROMANCE WITH TRAINS

Moviemakers have found humor, mystery, danger, and escape in rail travel for more than 50 years



20TH CENTURY, 1934



STRANGERS ON A TRAIN, 1951

Crossing two snow-capped mountain ranges, five deserts, the Great Salt Flats, unforgiving deserts, the journey offers an unparalleled slice of the West. Fortunately, the schedule is timed so that the best scenery is viewable during daylight—especially from the upper level of the double-deck coach cars featured on the western routes. The real fun begins past Denver, as the train slithers westward through the Rocky Mountains. Front Range, tracking the Colorado River. On day 1, in California, you travel through the infamous Donner site of an 1846 snowstorm that trapped 89 settlers. (Only 47 survived, after eating cannibalism.)

On lower ground, look for life: deer, elk, and Canada geese. Then there are snippets of small-town Americana, such as the Sip & Eat Diner in Commerce City, Colo., and the red A-frame sheds that dot the Princeton, Ill., as Piggyback of the World.

The views are so enchanting that one overlooks the train's facilities. Lavatories are usually back up, and the train is chronically late. But the menu is varied and adequate for two days, especially the thick Old-Fashioned Rail-French toast.

The deluxe sleepers for two are well worth the \$682 on top of the \$192 coach fare. Equipped with a handy table and a 120-volt outlet, they're perfect for working on a portable computer—if you can resist being distracted by the view.

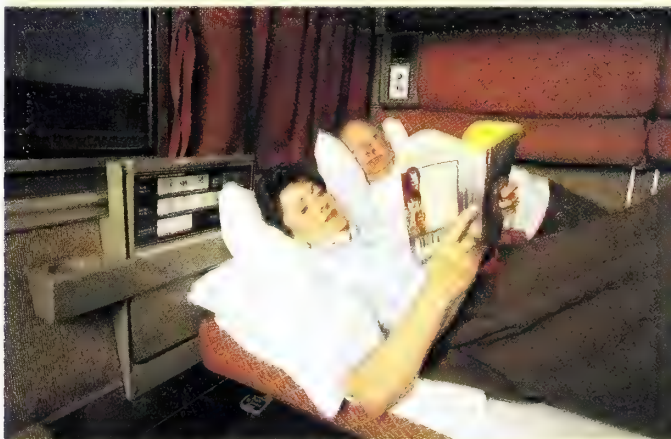
Jon Levine

AUTO TRAIN

One of nature's most remarkable migrations, hordes of preying homo sapiens load their Cadillacs or K cars



THE TRAIN HUGS THE COAST SO CLOSELY YOU CAN SEE THE PACIFIC



SLEEPING CARS ARE COZY—WITH COFFEE AND A PAPER EACH MORNING

each spring and flock north to summering grounds. But rather than brave the teeming wilds of Interstate 95, scores of motorists congregate in Sanford, Fla., to pack their cars into the Auto Train for a nonstop trip to Lorton, Va.

The Auto Train (\$390 per bedroom, plus \$225 per car) is not just a boon for the elderly. There are passengers like John Kennedy, a computer-manual writer, who is heading for a new job in Pennsylvania and fears his creaking Volkswagen isn't up to the trip.

A bottle of Beaujolais is waiting when I enter my two-bunk bedroom 90 minutes before departure. I am soon visited by a cheerful attendant, who offers to bring me meals

and cater to my whims. In the diner, though, the romance of the trip fades. My rib eye, rice, and peas are dished up cafeteria style on plastic plates. After eating, I venture to the domed observation cars—for panoramic vistas of trailer parks, commercial strips, and scrub forest.

Back to the diner for the evening movie. The secret is to arrive well before the scheduled 9 p.m. starting time. Otherwise, it's hard to find a seat close enough to the well-worn TV. No one seems to mind, even when train noise and a poor sound system obliterate key lines.

I make the eight-car trek back to my room to find my bed neatly made. It's comfortable, but I wake up with a kink in my back. I fare better than Kennedy's VW, however, which lost its exhaust system during the 17 hours of constant jostling.

John Carey

THE CARDINAL

Finally, the message flashes on the Penn Sta-

tion billboard: "The Cardinal... Track 18... ALL ABOARD PLEASE." Not exactly the conductor's romantic cry of yesteryear. But it's still exciting as we pull out of New York, bound for Chicago. I'm about to discover the contradictions of modern train travel—a world where they serve dinner on paper plates and shine your shoes at night.

My room for one, known as a roomette (\$148 plus \$109 fare), is a miracle of compactness: Its 6-by-3-foot space contains a closet, a sink, a chair, and a stool that turns out to be the toilet. This, like the entire room, gets covered when the bed folds down from the wall—so ablutions have to be carefully choreographed.

Although cozy at night, by day the roomette seems a tad claustrophobic. Eschewing the smoke-infested lounge, I hang around the diner. With windows reaching to the ceiling, it's the newest and nicest car, even if the plastic tablecloths and silk flowers are sad echoes of past dining glory.

For many passengers, the Cardinal is a necessity: It provides service to small towns that buses bypass and planes never go near. Others are rail buffs, their bedrooms littered with copies of *Trains* magazine, their talk full of trivia about engines and roadbeds. "You never unwind on a plane, somehow," says Joyce Murphy, a fashion merchandiser. "Here, you can relax, walk around. Plus, you really do see the countryside."

And a varied countryside it is: Virginia's Blue Ridge Mountains, flat Indiana cornfields, small Ohio towns—the train runs right down the main streets of some of them. Most spectacular is New River Gorge in West Virginia, which we reach at sunset.

As we pull into Chicago, I muse over what I've learned about train travel in the past 25 hours. Always walk prepared to lean into the turns. And never get off during a stop, even for a minute. The train might leave you behind. "It's no joke," says the conductor. "One time, they even left me."

Troy Segal



BY NORTHWEST, 1959



SILVER STREAK, 1976

Smart Money

YOU LOVE PLASTIC. ARE YOU READY FOR 'PLASTIC BONDS'?

Rock-solid may be your style in securities, but don't be surprised if your broker suggests "plastic bonds." So nicknamed because they're backed by what people owe on their credit cards, they're aimed at conservative investors. Issued by Citicorp, the securities boast a triple-A rating.

But no, the 19% that consumers pay isn't passed intact to you. The bank sets aside 4 points as a reserve against predictable defaults, 3 points against widespread economic trouble, and another 3 points to buy backup guarantees. That reduces what's left for investors to 9%, or 9.14% a year after compounding. Are plastic bonds worth the trouble?

For Citicorp, they certainly are. Tougher capital requirements are forcing banks to increase their reserves or shed assets. To accomplish that, Citi sold a \$500 million

They pay a bit more than CDs, but they lack FDIC backing

portion of its \$20 billion in MasterCard and Visa receivables to the public in May under the name Citi Credit Card Trust 1989-1. For four years, payments from a pool of customers will flow into a trust.

The trust is sliced into pieces as small as \$1,000 and sold to investors by brokers. The monthly interest payments can be deposited directly into customers' cash management accounts at brokerage houses. On June 15, 1993, investors get their principal back.

But what happens if many Citi customers stop making

their payments? Barring extreme economic circumstances, that's unlikely. And even if they do, the Citi trust has provisions, such as a letter of credit from a Swiss bank, that kick in and act as a partial insurance policy against up to \$285 million of slow payments and defaults. "We're extremely comfortable with its safety," says Thomas Hourican at Standard & Poor's.

MORE LIQUID. While Citicorp's name is on the security, the company has no legal obligation to stand behind any uncovered losses of the trust, says Michael Nugent, treasurer for card products. "It looks and smells like a certificate of deposit, except it has no FDIC insurance," he adds. "The investor is relying on 600,000-plus accounts to make their payments."

Citi's plastic bonds pay a little more than CDs: When issued, their 9.14% yield bested the 8.98% yield on its own four-year CD by a slender 16 basis points. True, they're more liquid than CDs, since Merrill Lynch has promised to make a market in them. But that isn't necessarily enough incentive to induce buyers to leave the familiarity and security of an FDIC-backed CD.

Citi's issue may be followed by many more. In June, retail giant Sears Roebuck issued \$250 million of its own plastic bonds. A market for securities backed by consumer credit, from boat and car loans to home-equity loans, could blossom in the next few years. "We anticipate a huge retail demand for asset-backed securities," says S. Randolph Gretz, a Merrill Lynch group vice-president. If investing in plastic becomes as popular as using it, he could be right. *Leah Nathans*



NIKE'S BOOTS ARE LIGHT AND COOL BUT OFFER THE LEAST SUPPORT

Outdoors

YOU DON'T HAVE TO GO HIKING IN CLODHOOPPERS

Remember when college students wore big, heavy hiking boots just to cross campus? Now, you wouldn't be caught dead wearing those clodhoppers. But you may not even need them for hiking anymore.

Unless you're strapping on a heavy backpack for a long journey, you might be better off with newer boots that are lightweight and more colorful. Weighing in at about two pounds a pair, they're around 25% lighter than old-fashioned, day-hiking boots and about 50% lighter than those worn for backpacking trips.

Constructed mainly of a combination of leather, nylon, and rubber, the new boots have toe caps, heel cups, and shanks made of plastic rather than steel. They also incorporate many features found in running shoes, such as air-cushioned soles.

MIXED BREED. The result is a sort of hybrid footwear—part sneaker and part boot—that's light, cool, colorful, and inexpensive. These shoes sell for \$40 to \$85 a pair, compared with \$150 to \$250 for heavier hiking boots. And the new ones should be fine for most day hikes.

There are a few drawbacks

to these lightweight boots. They won't give you as much support on rocky trails, they wear out faster. And, unfortunately, these boots aren't always available in a range of widths. Try the Tec brand if you have very narrow feet. The trend toward lighter and more colorful Nikes also fine but offer the least support of the three leading brands.

Make sure your boots are snug but not too tight. Your foot moves around much inside the shoe, you're more likely to develop a blister—or twist your ankle.

Once on the trail, you'll find the lightness right away. There's an old rule among backpackers that it takes much exertion to carry a pound of weight on your back as it does to carry five pounds on your back. But you have to pay more attention to the trail on rocky stretches, picking and choosing the best place to step. With a more flexible sole, your foot bends and you have a less solid platform for pushing off on your next step. But for moderate hot-weather hikes, these boots may be the fastest way to the top. *Eric Schmitt*



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Capable of producing a potent 262 horsepower, Jaguar's V-12 engine provides more firing impulses per revolution than engines with fewer cylinders. The result is astonishingly smooth and quiet power delivered across a broad performance range that gives the XJ-S authoritative acceleration, vivid response for passing and effortless cruising on the highway. Modified for racing, this engine has powered Jaguar race cars to the World Sports Car Championship for the last two years.

Inside the S-type's cabin, the richness of handcrafted burl

walnut and the fragrance of supple leather abound. Sports seats in front combine refined comfort and contoured support for high-performance driving.

The S-type chariots come in two configurations: the 2+2 Jaguar XJ-S coupe offers the elegance of grand touring, while the XJ-S convertible delivers the excitement and romance of an open cockpit roadster.

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Tax Tips

TRIMMING THE IRS' CUT ON A SECOND HOME

With its trusty old deductions for mortgage interest and property taxes, a second home seems like one of the more straightforward tax shelters around. But rent it out for more than 15 days, and things get complicated.

You'll be able to offset all or part of your rental income by deducting a percentage of the mortgage interest and property taxes, plus some other expenses. Still, how much you save depends on which method you use to calculate these deductions. The Tax Court has been more liberal than the IRS for a decade, and its method has won the backing of two appeals courts. Follow it, and you may—in relative safety—come out ahead.



The IRS allocates all expenses according to how many days the house was rented and how many you used it yourself. To simplify an example given in publisher Commerce Clearing House's *1989 Master Tax Guide*, let's say renters stayed 90 days, and you used the place for 30 days. Rental income was \$3,000, miscellaneous expenses were \$2,700, and the year's mortgage interest and local taxes totaled \$3,475.

The IRS says to divide the days rented (90) by total days used (120). That's 75%. So, first you must subtract 75% of mortgage interest and taxes (\$2,600) from the \$3,000 rental income. From the remaining income, you can subtract just enough other expenses—\$400 worth—to bring the net to zero. That leaves \$875 in interest and taxes for use as regular itemized deductions, but wastes \$2,300 of other expenses.

Michael Wolff, a tax partner at Grant Thornton in New York, notes that the Tax Court has twice been upheld on its view that mortgage interest and taxes (both assessed on a yearly basis) can be allocated by dividing the number of rental days (90) by the 365 days in a year—about 25% in this case. So, from your \$3,000 rental income you deduct 25% of \$3,475, or \$869. That leaves income of \$2,131.

BIG SAVINGS. Now you use the IRS allocation percentage, 75% in this example, to offset with \$2,131 worth of your \$2,700 expense bills. The net again is zero. But you're left with \$2,586 in interest and property taxes to take as itemized deductions. So, with the IRS method, your deductions total \$3,875; with the court method, they're \$5,586.

What if you're audited? Says an IRS spokesman: "We could recalculate the tax by our method. But in the real world, if a taxpayer did the court's way, it seems defendable." *Don Dur*

What's In

SEERSUCKER JOINS THE RANKS OF THE CHIC



Blame it on the greenhouse effect, the trend toward more comfortable clothes, or even an affinity for wrinkles. Whatever the cause, seersucker—that Southerners' staple—is fast

becoming the coolest summer fabric in more ways than one.

The crinkly cotton hasn't regained its popularity of the 1930s and '40s, when it was a virtual uniform for Ivy Leaguers and writer Damon Run-

yon. Still, seersucker is the fastest-growing line at Haspel Brothers, which is credited with mass-producing the original cotton suit and inventing a blend version in the 1950s.

Men willing to pucker up will find seersucker has changed. The trend is toward suits "that are not quite so uptight," says Susan Smyth at manufacturer Joseph & Feiss. Even conservative makers offer versions with broad shoulders, pleated trousers, and double-breasted jackets. (That could defeat seersucker's purpose, though: Who buttons a coat on a hot day?)

BOLD COLORS. They're no longer limited to the traditional blue or gray-and-white stripes, either. Liz Claiborne and Members Only offer shorts, trousers, and shirts in boldly colored prints and plaids. Even suits have livened up. At Ralph Lauren, you can choose green, yellow, red, or orange stripes—or have 'em all in one jacket.

With prices ranging from \$200 to \$395, seersucker has

lost its stigma as a poor man's suit. There remains the stuff's tendency to rumple, though. "Mr. America still favors well-pressed clothing," admits Herbert Sills of Haspel. "The guy who wears seersucker has to be a pretty confident fellow." *T.*

Worth Noting

■ **FAST SWITCH.** For small offices that run a computer, fax, and answering machine on one telephone line, electronics shops sell "automatic branching" modules for about \$100. The \$96 FaxJad III from Viking Electronic (715 386-8861) knows whether a call is from a fax, modem, or a person and connects it to the proper device.

■ **PRO PRICE.** Canon's new 35mm SLR, the EOS-1, boasts the company's highest-ever price tag: \$2,000-plus. Designed for pros who want both automatic and manual operation, the EOS-1 competes with Nikon's F4.

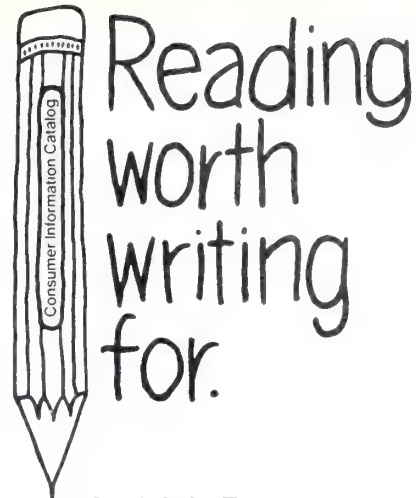
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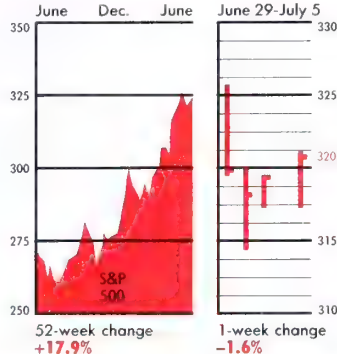
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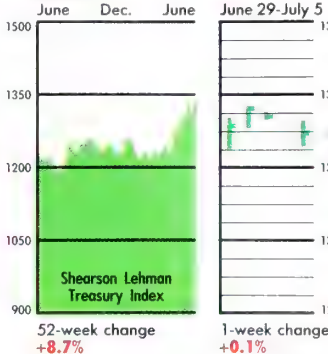
MARKET

1 week in the financial
Undermined by fears of
g interest rates, the dollar
2.4%. Indeed, short-term
rates dropped 0.3 per-
points. The Dow Jones in-
average fell 46.5 points
29 and an additional
ints on June 30, as fears
l that the economy is
into a recession. But the
ratio advanced from neg-
neutral, a signal that
ors are less bearish. Take-
cks led the market action.

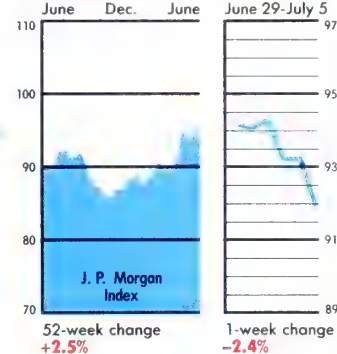
STOCKS



BONDS



THE DOLLAR



MARKET ANALYSIS

STOCKS	Latest	% change	
		Week	52-week
JONES INDUSTRIALS	2456.6	-1.9	15.3
COMPANIES (Russell 1000)	169.7	-1.6	17.3
COMPANIES (Russell 2000)	168.0	-1.7	11.2
COMPANIES (Russell 3000)	182.0	-1.6	16.8

IN STOCKS	Latest	% change (local currency)	
		Week	52-week
I (FINANCIAL TIMES 100)	2162.9	-2.1	15.7
(NIKKEI INDEX)	33,318.1	0.2	20.0
O (TSE COMPOSITE)	3772.2	0.2	8.5

FUNDAMENTALS

	Latest	Week ago	Year ago
90-DAY TREASURY BILL YIELD	8.0%	8.3%	6.7%
30-YEAR TREASURY BOND YIELD	8.1%	8.1%	9.0%
S&P 500 DIVIDEND YIELD	3.5%	3.4%	3.6%
S&P 500 PRICE/EARNINGS RATIO	12.5	12.7	14.6

TECHNICAL INDICATORS

	Latest	Week ago	Reading
S&P 500 26-week moving average	303.1	301.5	Positive
Stocks above 26-week moving average	62.4%	68.0%	Neutral
Speculative sentiment: Put/call ratio	0.28	0.23	Neutral
Insider sentiment: Vickers sell/buy ratio	2.01	2.04	Neutral

INDUSTRY GROUPS

BRIDGE INFORMATION SYSTEMS INC.

WEEK LEADERS			Strongest stock in group		
	% change			% change	
	4-week	52-week		4-week	52-week
SHING	9.7	31.2	HARCOURT BRACE JOVANOVIĆ	47.4	25.0
S AND MOTELS	8.2	47.0	HILTON HOTELS	17.2	101.0
MINING	7.9	-4.3	NEWMONT MINING	15.4	-3.4
TAINMENT	6.2	52.2	WARNER COMMUNICATIONS	16.1	66.0
IES	5.3	46.6	UAL	19.4	49.0

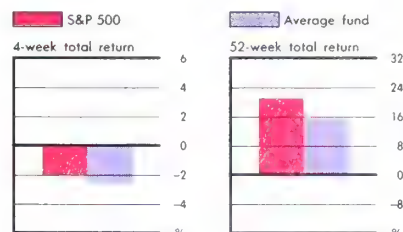
WEEK LAGGARDS			Weakest stock in group		
	% change			% change	
	4-week	52-week		4-week	52-week
INE TOOLS	-11.3	-22.4	CINCINNATI MILACRON	-15.0	-21.3
RE TIME	-9.2	-3.8	OUTBOARD MARINE	-21.6	-6.8
H CARE SERVICES	-8.2	-20.9	BEVERLY ENTERPRISES	-8.8	3.3
ERCIAL SERVICES	-7.8	-1.1	NATIONAL EDUCATION	-23.0	-47.2
ONDUCTORS	-7.1	-17.3	TEXAS INSTRUMENTS	-8.7	-20.1

MUTUAL FUNDS

MORNINGSTAR INC.

L		L	
4-week total return	%	4-week total return	%
TEGIC INVESTMENTS	13.7	FIDELITY SELECT COMPUTERS	-12.9
ED SERVICES GOLD SHARES	8.3	FIDELITY SELECT ELECTRONICS	-10.9
AM GOLD EQUITIES INDEX	7.3	FIDELITY SELECT SOFTWARE & COMPUTER	-10.7

52-week total return		52-week total return	
	%		%
ITY SELECT BROADCAST & MEDIA	44.9	STRATEGIC GOLD/MINERALS	-25.0
WARE GROUP TREND	39.1	UNITED SERVICES NEW PROSPECTOR	-16.4
II	38.0	SLH PRECIOUS METALS & MINERALS	-16.2



RELATIVE PORTFOLIOS

DATA RESOURCES INC.

Amounts of the present of \$10,000 and one year each portfolio	Foreign stocks	Treasury bonds	U. S. stocks	Money market fund	Gold
	\$12,251	\$12,096	\$11,838	\$10,696	\$8,613
ages indicate total returns	-0.49%	+1.08%	-2.64%	+0.16%	0.00%

on this page are as of market close Wednesday, July 5, 1989, unless otherwise indicated.
roups include S&P 500 companies only; performance and share prices are as of market close

July 3. Mutual fund returns are as of June 30. Relative portfolios are valued as of July 3. A more
detailed explanation of this page is available on request.

MARCHING BACKWARD ON ABORTION

The Supreme Court narrowly decided on July 3 that Missouri can ban abortions in public hospitals and can discourage abortions at any time after conception. "Pro-lifers" were heartened that the court had significantly chipped away at *Roe vs. Wade*, which in 1973 made abortion a constitutional right. "Pro-choicers" complained that women's options had been restricted. But as both sides will probably find out, they ain't seen nothin' yet.

Of the five justices who upheld the Missouri law, four have indicated they would vote to overturn *Roe*. They may get their chance during the Supreme Court term that begins this October, when the high court will hear three other cases involving state jurisdiction over abortion law. And the Bush Administration is sure to continue recommending—as it did before the Missouri decision—that *Roe* be overturned.

A generation of women has come of age believing that deciding whether or not to terminate a pregnancy is a guaranteed liberty, as fundamental as free speech or religion. There is nothing to be gained by turning back the clock. The Missouri statute is unlikely to stop many abortions: Its chief impact will be to ensure that women who can't afford a private doctor's bill or a bus ticket into the next state will endanger their health with illegal operations.

If *Roe* is repealed and most states make abortion a crime, rich and poor alike will be at the mercy of a medical underground ready to exploit their needs. More babies will be born to underaged, underprivileged, or simply underinformed mothers. Will the "pro-lifers" then suggest that such families get help with education, health care, and housing? Unless the U.S. is prepared to subsidize the rearing of thousands of children, rolling back abortion rights guarantees that more mothers will struggle in poverty. *Roe* made abortion a private, individual decision. Polls have shown that most Americans oppose government infringement of this privacy.

The court has not said that states must limit women's access to abortion facilities—only that they may. The states will be under great pressure to proscribe abortion treatment. We hope they resist that pressure.

HOW TO REGULATE THOSE CABLE TV OPERATORS

There's no doubt that America's TV watchers love cable. More than half of all viewers pay a monthly fee for the wire that expands their choices to include everything from uncut movies, congressional deliberations, religious fare, and rock music, to Ted Turner's Cable News Network.

But ask many subscribers what they think about the people who provide the service—the cable operators—and the response is likely to be anything but affectionate. The

average cost of basic service has zoomed by well over 20% since 1987, when Congress deregulated cable and virtually eliminated local oversight. Subscribers also feel neglected when operators decide which programming services to broadcast: Franchise owners too often favor the channels, which they happen to own equity—including Turner's. And customer service in many areas remains intolerably bad. Most subscribers are stuck: In nearly all cases, cable is a local monopoly.

It's time for Congress to restore local accountability to cable. There's no shortage of plans—more than a dozen bills have been introduced in the House and Senate this year. Reregulation doesn't have to mean a complete rewriting of the laws. Local authorities would regain a great deal of power if Congress simply spelled out some key provisions of the deregulation law, which the Federal Communications Commission has defined in ways that favor the industry. For example, the FCC now defines effective competition as access to at least three over-the-air channels. Below that number, local authorities can continue to regulate cable operators. Increasing it would have the effect of strengthening the hand of local authorities in regulating cable franchises.

STARK PROOF OF JAPAN'S MUSCLE

In BUSINESS WEEK's second annual Global 1000 Scoreboard—a ranking of the world's largest companies by market capitalization—one fact leaps out forcefully: Japan is indisputably the world industrial leader. Japanese companies account for 47% of the value of the world's 1,000 giants, or about \$3 trillion (page 139). In contrast, the U.S. makes up 32% of these companies' worth, while Europe's stake is 17%.

By now, we are accustomed to hearing about Japanese prowess in trade and its dominance in high tech. But the Global 1000 numbers merit special consideration because they show that, in fact, the Japanese dominate many industries. They are gaining in everything from paper products to building materials—sectors in which American and European companies once took their own prominence for granted. Out of 40 industry groups ranked in the Global 1000, Japan is tops in 20.

While the U.S. and Europe have accepted the decline of such industries as shipbuilding and steel, Japan's sunbelt industries are booming. Granted, that boom is part of a general economic surge—one result of a boost in domestic demand that Japan's trading partners have been clamoring for. But Japanese companies have been able to bend whatever wind comes along, be it the strong yen or trade barriers. The Global 1000 results reflect one reason for their flexibility: They are using Tokyo's heady markets and low interest rates as a pool of cheap financing. Some of the money goes to pay off debt, which in turn frees up funds for expansion and research. As one observer in Tokyo notes, Japanese companies were formidable before, now, with the possible U.S. recession around the corner, they're lethal.



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Can It Stay Ahead in Workstations?

In only seven years, Scott McNealy built Sun Microsystems into a \$1.8 billion company. But rising competition and the strains of rapid growth may soon produce its first quarterly loss. Now McNealy is trying to rebuild momentum.

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THE PICTURE OF HEALTH.

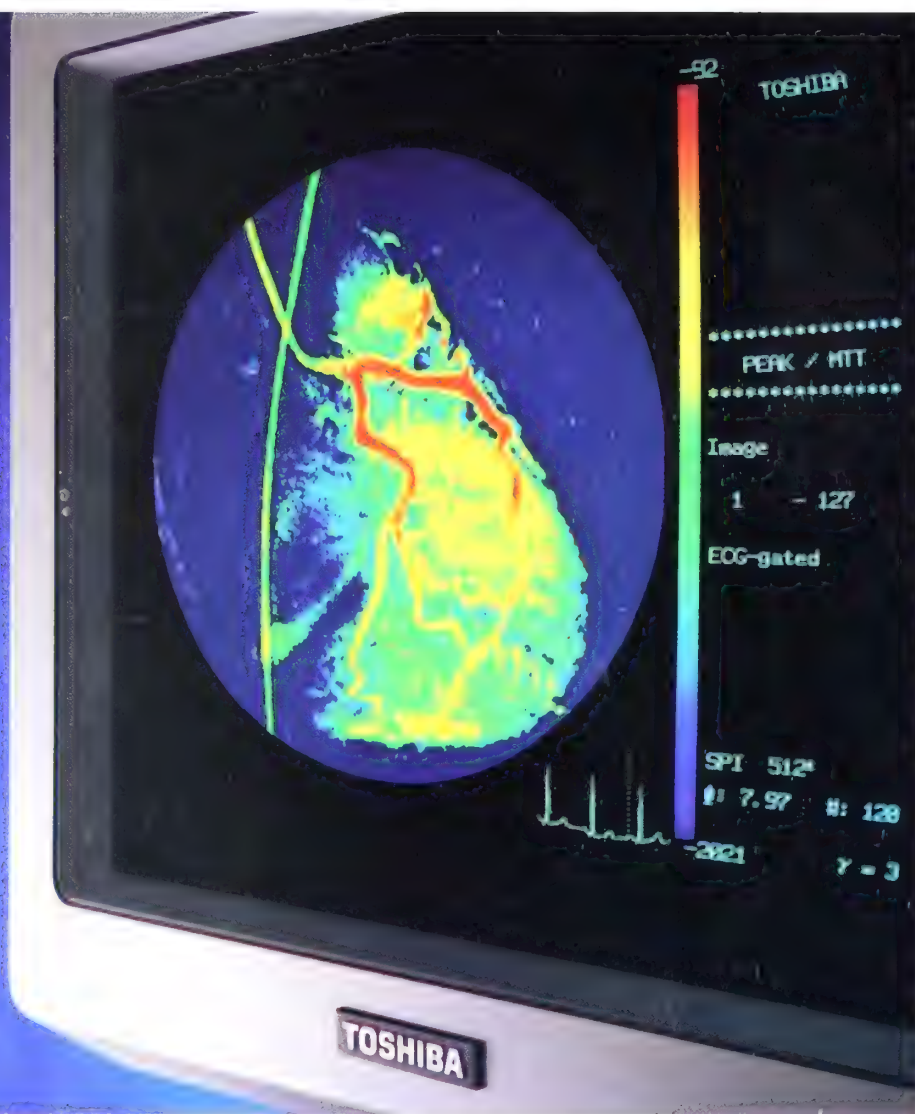
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"WE WERE HEROIC SO MANY TIMES IN THE PAST, WE THOUGHT WE COULD DO IT AGAIN," SAYS A SUN VICE-PRESIDENT. "BUT WE COULDN'T"

Cover Story

70 HIGH NOON FOR SUN

It was the darling of Wall Street and Silicon Valley, growing to \$1.8 billion in seven years. Then, just after its biggest workstation rollout ever, Sun stumbled and key executives defected. Now, CEO Scott McNealy has to rebuild the momentum and keep one quarter's problems from becoming a prolonged decline

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89 INDEX TO COMPANIES

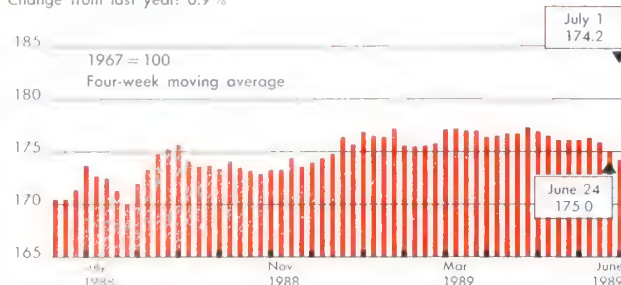
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Give Poland something tangible
Greenspan: Steering the right course
Don't force the thrifts to dump junk

BusinessWeek Index

PRODUCTION

Change from last week: -0.5%
Change from last year: 0.9%

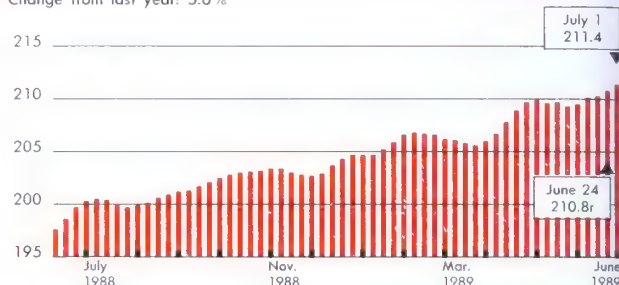


The production index fell further for the week ended July 1. On a seasonally adjusted basis, car production fell sharply, and strikes pushed down coal output. Production of steel, paperboard, and lumber fell, as did rail freight traffic. Trucks, paper, electric power, and crude-oil refining posted gains. Before calculation of the four-week average, the index also declined to 173.2 from 174.3. The monthly average was 174.2, down 1.1% from 176.2 in May.

BW production index copyright 1989 by McGraw-Hill Inc.

LEADING

Change from last week: 0.3%
Change from last year: 5.6%



The leading index posted its second consecutive rise in the week ended July 1. On the plus side, business failures fell sharply, bond yields continued to decline, and both M2 and materials prices grew faster. Those gains more than offset lower stock prices and slower growth in real estate loans. Before calculation of the four-week average, the index also gained ground, rising to 212 from 211.4. The monthly average stood at 211.3, up from 209.4 in May.

Leading index copyright 1989 by Center for International Business Cycle Research

PRODUCTION INDICATORS

	Latest week	Week ago	% Change year ago
STEEL (7/8) thous. of net tons	1,803	1,844 #	-2.0
AUTOS (7/8) units	41,379	119,841r #	-50.8
TRUCKS (7/8) units	29,788	78,288r #	-25.4
ELECTRIC POWER (7/8) millions of kilowatt-hours	57,848	58,699 #	0.4
CRUDE-OIL REFINING (7/8) thous. of bbl./day	13,989	14,157 #	3.1
COAL (7/1) thous. of net tons	14,403 #	16,906	-7.1
PAPERBOARD (7/1) thous. of tons	759.6 #	769.9r	6.5
PAPER (7/1) thous. of tons	743.0 #	724.0r	1.0
LUMBER (7/1) millions of ft.	513.8 #	522.9	26.3
RAIL FREIGHT (7/1) billions of ton-miles	18.0 #	18.6	-8.6

Sources: American Iron & Steel Inst., Ward's Automotive Reports, Edison Electric Inst., American Petroleum Inst., Energy Dept., American Paper Inst., WWPA¹, SFPA², Association of American Railroads.

FOREIGN EXCHANGE

	Latest week	Week ago	Year ago
JAPANESE YEN (7/12)	140	138	134
GERMAN MARK (7/12)	1.88	1.88	1.85
BRITISH POUND (7/12)	1.62	1.62	1.69
FRENCH FRANC (7/12)	6.36	6.39	6.24
CANADIAN DOLLAR (7/12)	1.19	1.19	1.21
SWISS FRANC (7/12)	1.62	1.61	1.54
MEXICAN PESO (7/12) ¹	2,515	2,508	2,300

Sources: Major New York banks. Currencies expressed in units per U. S. dollar, except for British pound expressed in dollars.

PRICES

	Latest week	Week ago	% Change year ago
GOLD (7/12) \$/troy oz.	379.750	383.600	-12.7
STEEL SCRAP (7/11) # 1 heavy, \$/ton	110.50	114.50	-7.9
FOODSTUFFS (7/10) index, 1967 = 100	225.6	227.2	-7.6
COPPER (7/8) c./lb.	108.8	113.7	1.2
ALUMINUM (7/8) c./lb.	84.5	85.8	-32.1
WHEAT (7/8) # 2 hard, \$/bu.	4.38	4.36	13.2
COTTON (7/8) strict low middling 1-1/16 in., c./lb.	65.88	65.75	12.5

Sources: London Wed. final setting, Chicago mkt., Commodity Research Bureau, Metals Week, Kansas City mkt., Memphis mkt.

LEADING INDICATORS

	Latest week	Week ago	% Change year ago
STOCK PRICES (7/7) S&P 500	321.33	323.70	18.0
CORPORATE BOND YIELD, Aaa (7/7)	8.97%	9.02%	-8.8
INDUSTRIAL MATERIALS PRICES (7/7)	104.5	104.6	5.2
BUSINESS FAILURES (6/30)	201	254	-11.8
REAL ESTATE LOANS (6/28) billions	\$329.9	\$329.2	14.0
MONEY SUPPLY, M2 (6/26) billions	\$3,081.2	\$3,077.6r	2.3
INITIAL CLAIMS, UNEMPLOYMENT (6/24) thous.	347	333	12.3

Sources: Standard & Poor's, Moody's, Journal of Commerce (index: 1980 = 100), Dun & Bradstreet (failures of large companies), Federal Reserve Board, Labor Dept. CIBCR seasonally adjusts data on business failures and real estate loans.

MONTHLY ECONOMIC INDICATORS

	Latest month	Month ago	% Change year ago
BUSINESS WEEK PRODUCTION INDEX (June)	174.2	176.2r	0.9
BUSINESS WEEK LEADING INDEX (June)	211.2	209.4r	5.7
EMPLOYMENT, CIVILIAN, MILLIONS, (June)	117.5	117.2	2.2
UNEMPLOYMENT RATE, CIVILIAN (June)	5.3%	5.2%	-1.9

Sources: BW, CIBCR, BLS

MONETARY INDICATORS

	Latest week	Week ago	% Change year ago
MONEY SUPPLY, M1 (6/26)	\$769.7	\$768.1r	-1.2
BANKS' BUSINESS LOANS (6/28)	316.0	316.5r	4.2
FREE RESERVES (6/28)	231r	466r	-57.2
NONFINANCIAL COMMERCIAL PAPER (6/28)	126.3	127.9	39.3

Sources: Federal Reserve Board (in billions, except for free reserves, which are expressed for a two-week period in millions).

MONEY MARKET RATES

	Latest week	Week ago	Year ago
FEDERAL FUNDS (7/11)	9.25%	9.49%	7.59%
PRIME (7/12)	10.50-11.00	11.00	9.00
COMMERCIAL PAPER 3-MONTH (7/11)	8.66	9.05	7.73
CERTIFICATES OF DEPOSIT 3-MONTH (7/12)	8.75	9.05	7.85
EURODOLLAR 3-MONTH (7/5)	9.16	9.31	7.79

Sources: Federal Reserve Board, First Boston

Raw data in the production indicators are seasonally adjusted in computing the BW index (chart); other components (estimated and not listed) include machinery and defense equipment.
1 - Western Wood Products Assn. 2 - Southern Forest Products Assn. 3 - Free market value NA = Not available r = revised NM = Not meaningful



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The General Meeting of Banco di Napoli, held on 28th April 1989 under the chairmanship of Professor Luigi Coccioli, approved the Group's 1988 accounts, which have been certified by Price Waterhouse.

Total assets came to Lit. 74,946 billion, an increase of 8.1% over the 1987 figure; loans and advances amounted to Lit. 50,271 billion, a rise of 9.1%. There was a substantial increase of 22% in foreign currency lending and one of 15.7% in loans granted by the special credit sections. On the liabilities side, deposits and borrowed funds increased by 5.9% to Lit. 62,620 billion.

The gross profit, net of the additional specific allocation to the staff pension fund, amounted to Lit. 465 billion in 1988, compared to Lit. 433 billion in 1987, an increase of 7.4%.

The additional specific allocation to the staff pension fund, over and above the cost of the normal banking system scheme amounted to Lit. 206 billion in 1988, compared to Lit. 184 billion in 1987. If the above allocation is disregarded the gross profit of Banco di Napoli was Lit. 671 billion in 1988 Lit. 617 billion in 1987.

The net profit for the year worked out at Lit. 74 billion, an increase of 19.3% over 1987; this result enables the

Bank to pay holders of savings shares a dividend of 14%, the same as the previous year.

A new branch has been opened in Paris to complement the existing foreign branches in New York, London, Frankfurt, Buenos Aires and Hong Kong.

The Group's Luxembourg subsidiary, Banco di Napoli International, has confirmed its high international standing. In 1988 Banco di Napoli further expanded its range of financial and banking products by establishing specialized companies (Brokerban for insurance broking and Sviluppo di Nuove Iniziative for the production of equipment for the energy and environmental sectors).

In the first half of 1989 another new company - Reviban - was set up for organizational and financial auditing.

Banco di Napoli's structure as a multi functional group was rationalized by establishing BN Holding as the parent company for the Group's subsidiaries in the financial services field.

These new companies join BN Leasing, BN Factoring, Sofiban, Finban, Gestiban, Finrete, Effepi and Promart, all of which operate in the financial services sector, and Innovare (promotion of technical innovation) and Datitalia Processing (data processing), which provide commercial services.

Highlights of the 1988 annual accounts

in billions of Lire	1982	1983	1984	1985	1986	1987	1988
BALANCE SHEET							
Total assets	26,868	35,931	43,212	50,575	60,430	69,339	74,946
Loans and advances	14,211	19,952	26,022	33,606	41,062	46,103	50,271
Deposits borrowed funds	21,743	30,031	36,401	44,124	51,785	59,122	62,620
Various provisions	918	1,260	1,744	2,235	2,792	3,317	3,571
(of which: funds earmarked for the staff)	480	614	887	1,288	1,672	1,935	2,107
Capital and reserves	505	614	612	622	1,129	1,170	1,200
PROFIT AND LOSS ACCOUNT							
Gross income	951	1,181	1,406	1,593	1,921	1,856	1,986
Operating profit	284	325	458	516	695	501	586
Gross profit	241	358	508	608	720	617	671
Additional allocation to staff pension fund	(51)	(58)	(128)	(179)	(197)	(184)	(206)
Gross profit net of above allocation	190	300	380	429	523	433	465
Other allocations	(183)	(292)	(367)	(412)	(468)	(371)	(391)
Net profit	7	8	13	17	55	62	74

Banco di Napoli is striding forward into Europe, but it remains faithful to its origins in the South of Italy, where its 400 branches providing the most sophisticated services in real time offer its customers the best of guarantees.



450th ANNIVERSARY 1539-1989

Head Office: Naples 80132 - Via Toledo 177 - 178

494 branches in Italy

Foreign branches in New York, Frankfurt, Buenos Aires, London, Hong Kong and Paris

Subsidiary: Banco di Napoli International, Luxembourg

Another 100 branches in the North and a strong presence abroad further enhance the prestige of the Banco di Napoli Group and vouch for its efficiency.

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THE BIGGEST OBSTACLE TO INNOVATION? A BAD ATTITUDE

Your article "Can 'industry-led policy' break down the obstacles to innovation?" (Recommendations, Innovation in America, June) accurately described the increasing investment of Japanese companies in the development of advanced U.S. technology. My company, an MIT spinoff, has been developing and transferring technology to clients for more than 30 years. The typical response from a U.S. company approached with a new-technology opportunity is that it is too long-term, not as good as the technology they are exploring internally, and that it probably won't work. In contrast, senior executives from Europe and the Far East seek us out, are enthusiastic about what the technology might do and are willing to work with us to overcome technical and contractual difficulties. In my opinion, this positive technical spirit and eagerness to find the best technology is what causes our overseas competitors to excel.

I agree with your conclusion that until the government provides an economic framework for longer-term policies in our industrial sector, the flow of technology will automatically go overseas. And until U.S. companies decide to seek out, support, and bring in technology from outside sources, particularly small entrepreneurial U.S. companies, this overseas flow will continue to increase.

William A. Ribich
 Vice-President
 Foster-Miller Inc.
 Waltham, Mass.

BUSINESS DOESN'T NEED 'HELP' FROM GOVERNMENT AND ACADEMIA

I would like to comment on the article "Business goes to college" (The Technological Base, Innovation in America, June). I am currently trying to run a

research-and-development, testing-production business while contending with suits and regulations concerning minority-business goals, sexual harassment, wrongful discharge, drug-free workforce requirements, as well as dozens of other extraneous matters that fully occupy my time and prevent me from performing the creative and innovative tasks that I should be doing.

Your emphasis on the "help" to be gotten from universities is a joke. I have yet to meet the college professor who has the slightest idea of how a business really operates. You want to compete with the Japanese? Then give up on being a "kinder and gentler" society and settle for "objective and focused."

The best government would protect business' rights to compete on a level playing field not by imposing tariffs, but by untying our hands. The best thing academia could do is get back to the classroom. If these things are done, industry will do just fine—we sure don't need any "troika" of government, academia, and industry to lay on more administrative overhead.

Ernest R. Freeman, President
 SFA Inc.
 Landover, Md.

KUDOS FOR COOPERATION

Your special issue was tremendous. I particularly applaud you for recognizing that cooperation is key to regaining a competitive edge ("Can 'cooperation' put the U.S. back on top? The Technological Base, Innovation in America, June).

Businesses of all sizes should take this theory to heart. We've seen cases where, without cooperation, small- and medium-size businesses would have had to close their doors. Banding together to share information and financing, and to take advantage of economies of scale for purchasing and distribution, will help the

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Readers Report

small-business sector and America at large survive and thrive in the decades that lie ahead.

Thomas S. Condit
President and CEO
National Cooperative Bank
Washington

HOW A BREAKTHROUGH CAME TO BE

Since I contributed to the development of one of the products mentioned in your special issue, I thought you might be interested in how such a product is developed ("Designed in America," Product Development, Innovation in America, June).

Engineering the Migent Pocket Modem took four experienced engineers (each with 15 or more years of experience). Few organizations in the U.S. put this kind of staff on such a project.

It is common to think of design as being associated with appearance. Good electrical engineering, and the associated product design, is not treated, or rewarded, as what it is—a technical art form. Good mechanical design is. But today the mechanical design is of less importance to most electronic products.

It is likely that the U.S. has lost the battle for dominance in semiconductors. However, our open, active culture, as well as other opening cultures around the world, should generate vast new-product opportunities.

We are in need of more engineers with the 'genesis touch.' This requires a society that values them.

Ken Krechmer
Action Consulting
Palo Alto, Calif.

SOUTHMARK'S BOARD IS ON TOP OF THE SITUATION

Your comments on Southmark Corp. in "Taking charge: Corporate directors start to flex their muscle" (Cover Story, July 3) must have left readers with the impression that Southmark has a weak board of directors today. Nothing could be further from the truth.

In January, 1989, Southmark's two remaining outside directors, Arthur L. Crowe Jr. and James A. Colquitt, forced out Gene Phillips and Bill Friedman, Southmark's chairman and vice-chairman, respectively. They asked me to serve as chairman and CEO, and they moved quickly to add four highly qualified independent directors. Since then, they have built a very strong 11-man board. 10 of them are independent. Four of the ten outside directors were added in May.

The new board's five-month record

speaks volumes about their aggressiveness and independence. It installed new management, hired new auditors and investment bankers, initiated an extensive review of Southmark's assets, brought new management to three key subsidiaries and directed several crucial asset sales to raise cash.

In a different article in the same issue, you say: "Southmark's officials say its problems are in the past." This is not true. We have problems—serious problems—and I assure you that every single Southmark official knows it. Far from being a "rubber stamp" board, Southmark's new directors and its new management are working full time to bring Southmark through its problems. We think it's important that BUSINESS WEEK's readers understand this.

Arthur G. Weiss
Chairman, President, and CEO
Southmark Corp.
Dallas

GOOD LEADERSHIP REQUIRES VISION—AND IDEAS THAT WORK

Congratulations on Keith Hammonds' fine review of Abraham Zaleznik's *The Managerial Mystique* ("So many managers, so few leaders," Books, June 12). Great leaders furnish not just vision but intellectual capital—ideas that work.

Contrast Ronald Reagan's vision with Thomas Jefferson's ideas. Or the vision of General Motor's Roger Smith with the ideas of Ford's Donald Petersen. Other CEOs who furnish intellectual capital include AT&T's Robert Allen, Disney's Michael Eisner, Philip Morris' Hamish Maxwell, Cummins Engine's Henry Schacht, and Quantum Chemical's John Stookey. And note the genius of President Bush's NATO speech and its effect. Brilliant leadership is just that: brilliant.

Thomas R. Horton
President and CEO
American Management Assn.
New York

WAGES IN ASIA SHOULD BE RAISED, NOT EXPLOITED BY THE WEST

I am amazed by the cold and mercenary approach of both your correspondent ("Is the era of cheap Asian labor over?" International Business, May 15) and your readers ("Asian wages are still plenty cheap," Readers Report, June 12) concerning the issue of Asian wages.

The fact that compensation in Bombay, Bangkok, and Manila is so low should worry all of us who are operating businesses in the so-called developed world.

Rather than debate about how low Asian wages are, should we not all be

thinking hard about how we can bring them up to U.S. and European levels? Has civilization fallen so low that a hard-nosed approach to the bottom line is now the norm—with all questions of ethics driven out of the business mind?

Robin E. J. Chater
Oxon, Britain

THE BREAKFAST OF CHAMPIONS FOR YOUNG CORPORATE RAIDERS

The Chicago Board of Trade was wrong in fining a trader's clerk \$1,000 and later firing him—all for eating a cockroach as his peers in the pits chanted "eat it, eat it" ("It doesn't pay to eat a 2-inch roach," In Business This Week, June 12).

The board should have packed him off to business school to have his money-making instincts honed—he has the makings of a good corporate raider.

Dwight Bohmbach
Phoenix

IT'S A BRAVE NEW WORLD FOR U.S. DEFENSE CONTRACTORS

Unfortunately, the names of most major defense contractors could have been substituted for Northrop Corp. in your article on the legal problems facing that company's new chief executive, Kent Kresa ("The good soldier Kresa steps up at Northrop," Top of the News, May 8). Defense companies have had difficulty adjusting to the torrent of new procurement-reform legislation and regulations that have emanated from Washington since 1984, not to mention the increased oversight of their operations by government audit agencies.

The problem stems in part from the fact that many defense contractors have not fully made the changes that are needed in their organizations to cope with the extremely demanding legal environment in which they find themselves. One-shot training sessions and one-time memos from company presidents will not suffice.

A good-faith compliance program must include regular training programs to keep employees abreast of changing requirements and to educate them on the various types of noncompliance that could occur in their areas of operation.

Douglas L. Sanders
Principal Associate
Sanders Group
Azusa, Calif.

Letters to the Editor should be sent to Readers Report, Business Week, 1221 Avenue of the Americas, New York, N.Y. 10020. Fax: (212) 512-6875; Telex: 12-7960, Intl. 4998204. All letters must include an address and daytime and evening telephone numbers. We reserve the right to edit letters for clarity and space.

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OFFICE ROMANCE: LOVE, POWER, & SEX IN THE WORKPLACE

By Lisa A. Mainiero

Rawson Associates • 298 pp • \$17.95

A DISPASSIONATE LOOK AT ROMANCE IN THE OFFICE

The stories never cease to fascinate us. "Did you see who left the Christmas party with whom?" "They were in her office with the door closed for one hour." "I hear the security guard caught them on the floor of the men's room." While many management subjects have been discussed to complete boredom, workplace romance always sparks conversation. And these days, it seems there's a lot of grist for the mill. "Love in the workplace has become the new sexual revolution," writes Lisa A. Mainiero, an assistant professor of management at Fairfield University. "The influx of women into jobs that were formerly the sole province of men has made [it] almost inevitable."

Well, perhaps. The current generation didn't exactly invent desire between the desks. But office liaisons have gotten more common, presenting companies with a mess of managerial and even legal issues. The time is ripe for a thoughtful book on the subject. Unfortunately, *Office Romance: Love, Power and Sex in the Workplace* is not that book.

To her credit, Mainiero approaches the topic in an earnest, nonsensational fashion. (Her publisher keeps the PhD after her name on the cover—no smut here, folks, this is a serious effort.) Mainiero, whose doctorate in organizational behavior is from Yale University, takes an academic approach, quoting liberally from numerous articles, including a 1984 *BUSINESS WEEK* story, and university studies. Her research includes a survey of 100 executives and three years' worth of anecdotes and interviews culled from her experience as a management consultant. The book discusses how offices foster romance, how affairs progress in work settings, and their general risks and rewards, punctuated with guidelines for employees and employers.

Not that the book is trying to encourage anybody. Mainiero's purpose, as she repeatedly states, is to educate people. Maybe that explains why *Office Ro-*

mance reads like a textbook, frustratingly equivocal in its outlook: "On the one hand," she writes, "you can benefit from your close personal relationship with a colleague who really knows you well and can share in your work. On the other hand, there will be days where you may find work conflicts interfere dramatically with the quality of your personal relationship." Let's not go out on a limb here, professor.

Despite her vacillating, Mainiero does let something of an opinion on office romance sneak through. She's for it—as long as the partners are both single and neither works for the other. "Love among peers can be encouraged and



supported," she says. One of the book's aims is to discourage the automatic assumption, especially among women, that office romance is bad. Two-thirds of the female executives surveyed believed that a workplace affair could damage a career—yet only 20% knew of a case where negative results had actually occurred. And while women fear that romantic involvement may get them fired, some male interviewees believe women use sex to their advantage. "Twice, I have seen women who were having an affair with their bosses protected

against firings," says one male banker.

Mainiero argues that status, not gender, determines who's at risk in an in-house affair. But even here, there's no firm conclusion: A secretary may be more vulnerable, but an executive has more to lose. Surely anyone who draws a paycheck can figure that out.

In fact, *Office Romance* seems to keep telling us what we already know. Conservative companies discourage office romance, liberal ones are more tolerant. It's nice to have an ally at work. Don't get involved with your boss. Amid all the maxims is the occasional bombastic declaration, such as, "Sex in the office is a power game." Maybe, though, it can't help thinking that attraction has something to do with it, too.

The platitudes might have more punch—and relevance—if they were applied to real events or lawsuits. But *Office Romance* makes only cursory references to true stories such as the Mar Cunningham-William Agee affair. Instead, it makes its points mainly through anecdotes of the "John and Suzann" who were colleagues for a large company variety, many of them brief and vague.

Still, these stories give *Office Romance* what heart and complexity it has. Walking the tightrope between personal and professional loyalties isn't easy, as "Maggie" discovers when her big presentation to the department gets ripped apart—and leading the critique is her live-in lover, "Jim." Maggie understands—"He had to show that he could be objective in the business sense"—but still feels "betrayed." (Given that they were living together, you'd think ol' Jim might have hinted earlier that her report was on the wrong track.) Says another interviewee: "I was supposed to be a caring lover in private and a distant, objective colleague in public. It was a

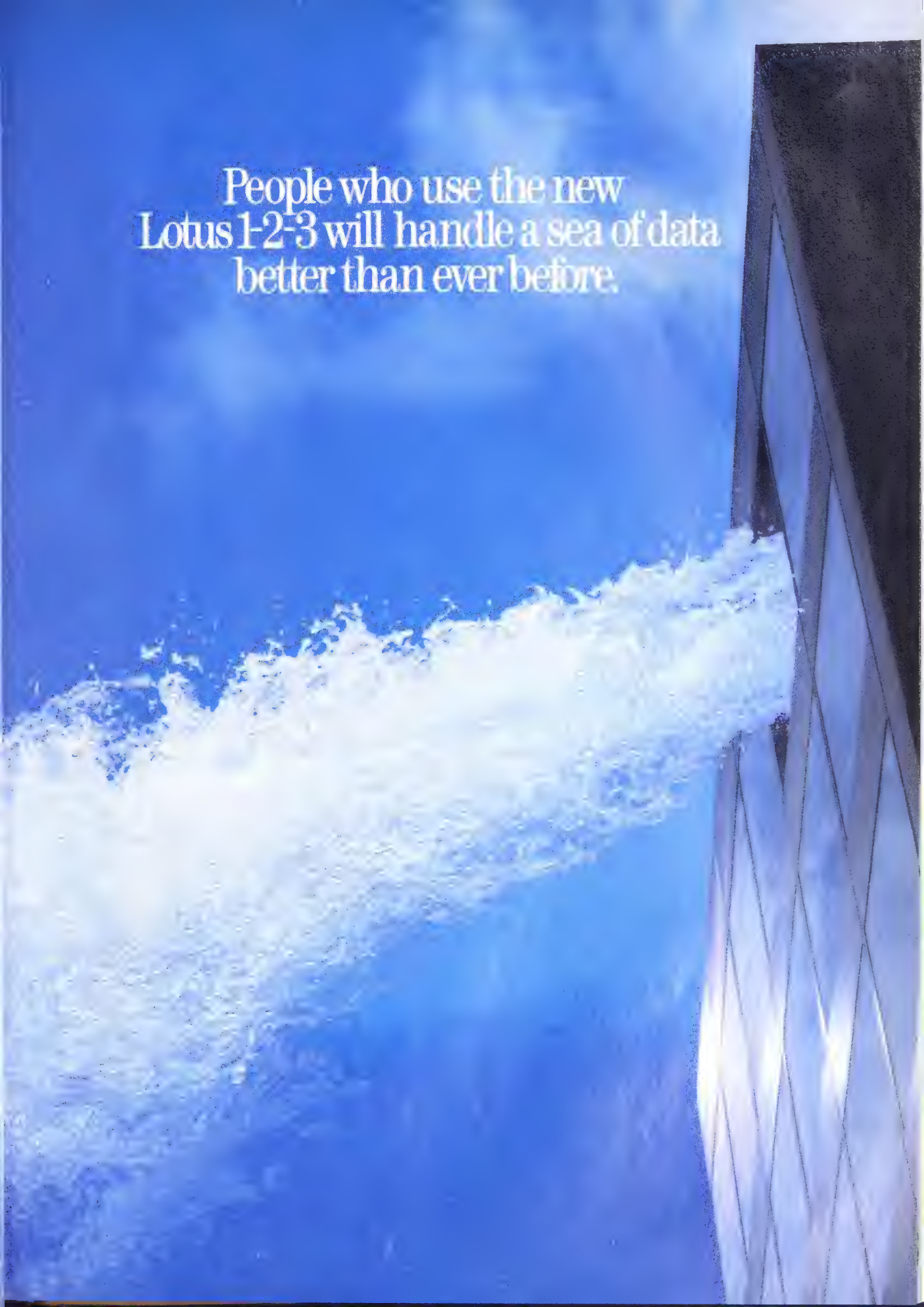
if we were four different people."

There's plenty to smirk about when love in the workplace comes up. But this issue is also serious, for employees who get torn between priorities and for employers who want to respect individual privacy yet preserve a harmonious and productive workplace. Office romance is a subject that deserves sensitive discussion. *Office Romance* just does a brilliant job of explaining the obvious.

BY TROY SEGAL

Staff Editor Segal thinks office romance is a fact of life.

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SUPPLY-SIDE THEORY IS ALIVE AND WELL —IN MOSCOW

BY PAUL CRAIG ROBERTS



Soviet reformers
complain that
Westerners may thwart
Russia's liberalization
by insisting on
economic planning
and restricted
property rights

PAUL CRAIG ROBERTS HOLDS THE
WILLIAM E. SIMON CHAIR OF POLITICAL ECONOMY
AT THE CENTER FOR STRATEGIC
& INTERNATIONAL STUDIES IN WASHINGTON

Soviet leader Mikhail S. Gorbachev does not agree with the conventional wisdom in our corporate boardrooms, on Wall Street, and among the Washington media that supply-side economics is dead. I know, because I have just returned from Moscow, where I was invited to speak on the virtues of economic freedom.

On June 21, under the auspices of the Soviet Academy of Sciences, I made the case for privatizing the Soviet economy. My audience of several hundred leading Soviet economists, academicians, journalists, and graduate students enthusiastically received my radical proposal. At the close of my three-hour session, Abel Aganbegyan, chief economic adviser to Gorbachev, declared: "We are going to establish private property in the means of production."

In Moscow today, economic freedom is an exciting concept, and an American supply-sider finds far more soul mates there than he can find among the intelligentsia of America and Europe.

The Soviet economy, shaped by dreams of collective purpose, is on the verge of collapse. Starvation is already nibbling at the edges of the system. In many parts of the country, people spend four or five hours a day searching out the evening meal. High-level reformers told me that privatization was no longer unthinkable because only radical economic changes can prevent famine in the very near future.

SPOILED CHICKENS. A stroll through Moscow's shopping districts is all it takes to understand Gorbachev's disenchantment with socialism. The paucity of shoppers is visible evidence that people expect the stores to be empty. A produce store had only bottled mineral water. A meat store was stocked with tinned fish and a counter of spoiled chickens. GUM, the major department store, has the character of a small-town flea market. A large crowd outside one shop was a clear indication that a salable commodity had appeared. It turned out to be perfume, and people were waiting hopefully to convert their rubles into something of value.

Western economists, preoccupied with "market failure," misled us about the viability of the Soviet planned economy. Its failure was hidden by the availability of vast quantities of easily accessible resources that were extravagantly used to compensate for the absence of individual incentives.

Today, the cheap resources are gone, and the Soviet Union is turning itself into a giant Love Canal, with pollution levels far exceeding those in the West. In the Ukraine alone, industries discharged 22 billion pounds of toxic sub-

stances into the atmosphere last year—eight times the U.S. total. The ruddy complexions one sees in Moscow reflect severe air pollution and the absence of toilet soap, not healthy diets.

Many Soviet reformers understand that their economy cannot be modernized with Western technology, bank credits, and industrial robots because the Soviet Union lacks the economic and social institutions to use capital efficiently. There is no possibility of reforming the Soviet economy until the profit system takes the place of gross-output planning.

PROFIT-ORIENTED. A profit system cannot work unless prices are determined by markets. In turn, resources must be free to follow the prices, with investments moving in the direction of profits and away from losses. This cannot happen unless property rights are assigned. A leasing system cannot solve the investment problem. A private manager with a lease may run the plant or farm efficiently, but he lacks incentive to invest his profits in the state's property.

In short, the Soviet economy does not work because it is not free. Capitalist rules do not always guarantee the correct allocation of capital, but they do ensure that incorrect and wasteful misallocations cannot be permanently entrenched with subsidies until they bleed a nation dry. Economic freedom works because it does not tolerate and perpetuate mistakes.

In my discussions with reformers, many complained that Western voices threaten Soviet economic liberalization with their insistence that planning is needed to make markets work and that property rights must be restricted to prevent unequal distribution of income.

In the West, excitement over economic freedom is confined to the hackles raised by Ronald Reagan and Margaret Thatcher. Last New Year's Day, *The New York Times* summed up the attitude toward Reagan's effort to refurbish our free economy: "Mr. Reagan asked the country to dream dreams, and it has. Yet as Hugh Heclo, a Harvard professor, noted in a recent essay, 'these were necessarily dreams of private advantage, not public accomplishment.' Mr. Reagan's social gospel celebrated individualism.... There was virtually no talk about collective purpose."

Desperate for a workable economy, Soviets no longer make ideological defenses of socialism. They have even welcomed a private, American-operated independent university in Moscow. "But you must promise," an official told me, "not to send us your [John Kenneth] Galbraiths. They are not helpful. They don't believe in freedom."

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BY GENE KORETZ

TAKING STOCK OF THE FLEXIBLE WORK FORCE

Economist Richard S. Belous of the National Planning Assn. calls it "the contingent work force," and in a new study entitled *The Contingent Economy* he argues that its fast growth is changing the nature of U.S. labor markets in ways that bode both well and ill for the American economy. Contingent workers, loosely defined, include part-timers, leased employees, temporary workers, business services employees, and the self-employed. Their common denominator is that they do not have a

parts and receive few costly benefits. The median hourly wage for part-time clerical workers is only 65% of similar full-timers, for example, and nearly 80% of full-time year-round employees enjoy employer-sponsored health insurance, compared with less than 30% of part-timers. Moreover, employers save money by using contingents only for the hours, tasks, or stages of the business cycle when their work is needed.

For employees, the benefits are less clear-cut. Some contingent workers, such as students, women with family responsibilities, and successful self-employed professionals, welcome the flexibility of contingent employment. But many are ill paid, enjoy scant health and pension benefits, and suffer a chronic sense of insecurity. On the other hand, notes Belous, "the human-resources flexibility made possible by contingent employment has helped the U.S. economy to generate millions of jobs while keeping inflation levels relatively low." In other words, the use of contingent workers has enabled American business to survive and grow in an increasingly competitive world economy.

Whether that will prove true over the long run is another question, however. Belous points out that relying on contingent workers tends to inhibit employer investment in human capital—education and training—while the unstable nature of such employment adversely affects worker productivity. Moreover, public pressure is already rising to solve the growing problems of inadequate health coverage, unemployment insurance, and retirement income posed by an increasingly contingent economy. Such problems may come to the fore in the next recession, Belous predicts, "when unemployment among contingent workers is likely to rise sharply."

suggest output will be slow to respond

Meanwhile, Hunt notes that declining domestic oil output in the face of rising gasoline consumption indicates that the U.S. could import 48% of its oil need this year, compared with 41% last year. And oil import prices, averaging \$17 a barrel at last count in April, have risen significantly since then. Factoring in all these developments and the likelihood that nonoil imports will rise a bit in the second half, Hunt expects the trade deficit to hit \$10.5 billion a month by the fourth quarter—still below last year's \$11.8 billion monthly average, but 16% above the average level so far this year.

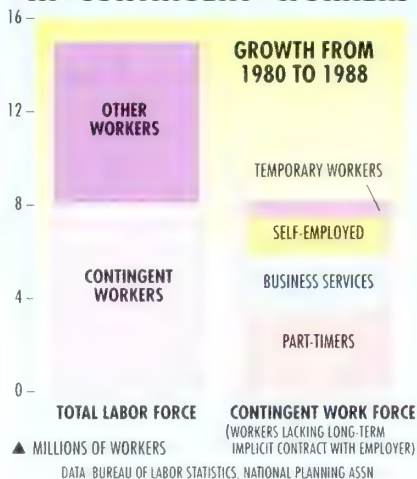
U.S. MANUFACTURERS SLIP A BIT IN THE PRODUCTIVITY RACE

American industrial productivity rose a healthy 3.2% last year, reports the Labor Dept., but that was still less than gains of 7.6% posted by Japan and about 5% by France, West Germany, and Britain. And though U.S. unit labor costs rose only 0.3%, such costs actually declined in Japan, France, and Germany. Only when foreign unit labor costs were translated into dollars did U.S. increases come in below those overseas—thanks to the dollar's relative weakness last year. All of which suggests that U.S. industry could well lose ground this year, as dollar strength, slowing productivity, and higher inflation combine to dull its competitive edge.

THE LONG, HOT SUMMER AHEAD FOR JOB SEEKERS

Although payroll job growth stabilized at around 200,000 a month in the second quarter, several indicators suggest that it's likely to slide again this summer. Economists at Salomon Brothers Inc. point out that initial unemployment-insurance claims trended higher in the second quarter, approaching the peak they touched in the wake of the 1987 market crash. What's more, the share of industries reporting job gains fell to 59% in June, its lowest level since 1986. And the Conference Board's help-wanted index slipped back to the bottom of a year-long range in June, "despite heavy advertising by the labor-short health care industry." The spreading impact of cutbacks in the defense, motor vehicle, and construction industries will curb employment growth in the months ahead, Salomon predicts.

THE DRAMATIC INCREASE IN 'CONTINGENT' WORKERS



long-term implicit contract with their ultimate employers, the purchasers of the labor and services they provide.

The contingent work force isn't new, of course, but its growth is accelerating. From 1980 to 1988, the total U.S. labor force rose by 14%, or 14.8 million people. In the same period, the contingent work force, liberally estimated, grew by 28%, or 8.1 million (chart). Even if one eliminates entirely the category of business services (which includes a fair number of part-timers, self-employed, and temporary workers), the ranks of contingent workers have increased by 20% since 1980, says Belous, and they now account for at least 25% of the entire labor force.

For employers, that rapid growth has clearly been a plus, at least over the short run. Contingent employment has enabled many companies to cut costs by downsizing their traditional full-time core work forces. Most contingent workers are paid less than their core counter-

THE TRADE DEFICIT LOOKS READY TO WIDEN AGAIN

The delayed effects of the dollar's runup in the first half of the year, combined with a pickup in oil imports, foreshadow a worsening trade deficit in the second half, says economist Lacy H. Hunt of Carroll McEntee & McGinley Inc. Hunt notes that the export order index of the National Association of Purchasing Management's monthly survey hit the lowest level in its 18-month history in June, reflecting a marked slowdown in export growth. And though renewed dollar weakness may revive export demand, recent cutbacks in manufacturing employment and inventories

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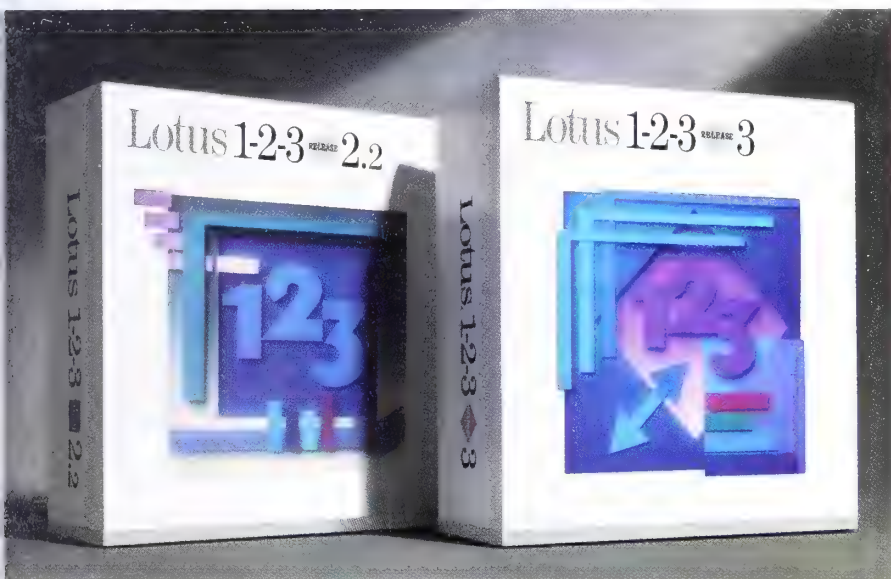
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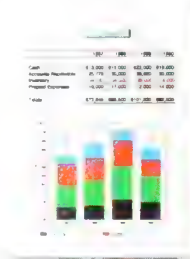


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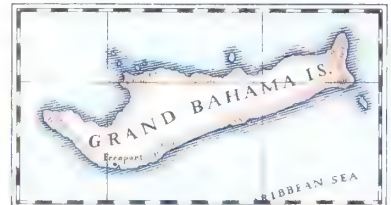
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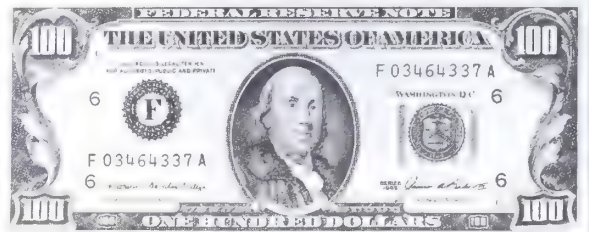
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THE FED IS STILL LOOSENING CREDIT—NOTCH BY CAREFUL NOTCH

The Federal Reserve Board has everything going its way—so far. The latest report from the labor markets shows clear signs that 16 months of credit tightening have slowed the economy from last year's inflationary pace. Employment growth continues to cool, but not too severely, and that's turning down the heat under wages and prices.

Now comes the tricky part. The Fed has begun to ease monetary policy in an effort to guide the economy in for a soft landing—a slowdown that avoids a recession. For the second time in as many months, the central bank has edged down the federal funds rate by ¼ percentage point to about 9¼% (chart). The funds rate is the Fed-controlled charge on interbank borrowing, and lately it has been the key indicator of monetary policy.

But with the economy softening, loosening the monetary reins too slowly risks recession. Recent economic data show that the slowdown in consumer spending has hit the all-important manufacturing sector a lot harder than expected. However, easing too aggressively risks a flare-up in inflation. The venting of price pressures has been confined to the goods-producing

sector, while service wages and prices remain a problem. One thing seems certain: Interest rates have peaked and are likely to head lower in the second half now that the Fed is obviously in an easing mode. The next Fed move will probably be another quarter-point drop in the funds rate. The central bank set a clear pattern of cautious, quarter-point moves when it was tightening, and easing is likely to proceed in the same manner.

In response to the Fed's latest move, banks have begun cutting their prime rate by half a percentage point, to 10½%, the second cut since early June. That will lower borrowing costs for a broad range of consumer and business loans and help keep the economy moving forward. If banks' cost of funds continues to fall, the time could drop again before summer's end.

SERVICES ARE DOING ALL THE HIRING

Further declines in market rates will depend on continued evidence of an economic slowdown and well-behaved price indexes. Judging from the latest employment report, the outlook on both counts is favorable.

Nonfarm businesses added 180,000 workers to their payrolls in June, bringing total employment to 108.5

million. For the quarter, job growth averaged only 200,000 new hires per month, the slowest quarterly pace in three years. Job gains in the first quarter averaged 264,000 per month, already down a bit from 275,000 during all of last year.

Still, the June gain was not alarmingly small, particularly in light of the government's large upward revision to May's increase. Originally reported as a slim rise of only 101,000, the May advance now reads 207,000. Although the May and June increases confirm slower economic growth, they also allay fears of recession.

As has been the trend throughout 1989, the service economy accounted for all of the June job gains. Service industries added 231,000 jobs last month, mostly in transportation, finance, health, business, and government services. Jobs in the goods-producing sector, where tight Fed policy has hit hardest, actually fell in June for the second consecutive month, reflecting widespread declines in construction, manufacturing, and—largely because of coal strikes—mining.

FACTORIES FEEL THE SHOPPING SLUMP

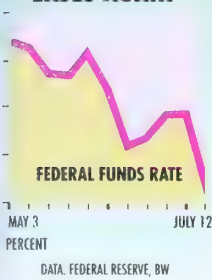
The weakness in manufacturing is the most disturbing. Factories cut employment by 31,000 jobs in June, the third straight decline and the largest in nearly three years (chart). That's a sign that lackluster consumer spending in the first half is now working its way back to factory orders and inventories. Manufacturing has been the economy's leader for the past two years. Further job losses there could put the expansion in jeopardy.

Last quarter, only 48.3% of the 143 manufacturing industries in the government's survey added workers to their payrolls. That was the smallest since the broad factory-sector slowdown in 1986.

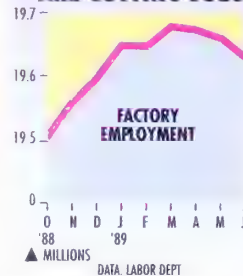
The auto industry led the June job losses. Carmakers laid off 15,000 workers as sales remained soft, causing a further pileup of car inventories on dealers' lots. More layoffs could follow in July: Detroit is planning the lowest seasonally adjusted production run since late 1982.

Employment in electrical equipment continued to trend downward in June. The industry has shed some 30,000 jobs since November. Most other industries posted smaller losses, particularly in the durable-goods sector. But jobs in nonelectrical machinery continued to gain, reflect-

MONETARY POLICY EASES AGAIN



MANUFACTURERS ARE CUTTING JOBS



Business Outlook

ing strong capital spending both here and abroad. Machinery-industry jobs have grown in each month of 1989, although the pace is slower compared with last year.

In addition to the layoffs, factories cut back on their hours in June. The average workweek fell to 40.9 hours from 41 hours in May and from a peak of 41.3 hours in April. The June workweek was the shortest in more than two years, and the drop since April is a harbinger of further softness in both jobs and production.

THE SILVER LINING IS PRICE STABILITY

The one benefit from the slowdown in manufacturing is the improved outlook for inflation. The moderation has hit both wages and prices. The loosening of production capacity, particularly in primary processing industries, has eased price pressures right where they had been the greatest. And after accelerating last year, factory wages are now growing more slowly.

Average hourly earnings in the nonfarm economy rose a scant 0.1% in June, to \$9.62. They didn't rise at all in May. One reason: Factory wages grew at an annual rate of only 2.2% last quarter, a slowdown from 2.6% in the first quarter and from 3% during all of last year (chart).

That's well within the recent pace of productivity growth in manufacturing, which means that factories have their unit-labor costs well under control. That's an important factor that will take further pressure off producers to raise prices.

However, wage pressures still loom in the service sector, where job markets remain tight. Although the overall unemployment rate for civilians edged higher in June, to 5.3% from 5.2% in May, the jobless rate among

service-producing industries held at its May reading of only 4.9%.

Not surprisingly, wage growth in services remains rapid. Average hourly earnings in private-service industries rose at a 4.9% annual rate last quarter, up from 4% in the first quarter. So far this year, service wages are rising slightly faster than their 4.2% pace of last year.

Since services account for three-fourths of all nonfarm jobs and since service productivity has been extremely poor, these wage pressures will offset some of the inflation improvement on the goods-producing side of the economy. Services make up about half of the consumer price index.

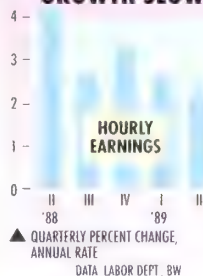
WILL CONSUMERS TAKE THE FED'S BAIT?

As employment growth slows down, so does income growth, and consumers typically begin to reassess their financial prospects and their debt burdens. That seems to be happening now. Weekly pay for nonfarm workers rose a slim 0.1% in June, to \$332.85, following a 0.9% drop in May. That means personal income in June probably failed to keep up with inflation.

As a result, consumers have been somewhat more reluctant to take on new credit. They added \$3.6 billion more to their debt than they paid off in May, bringing outstanding installment obligations to \$697.3 billion. The April increase was only \$2.4 billion. Last year, monthly gains averaged \$4.3 billion per month. That slowdown partly reflects Fed tightening, and it's a big reason why consumer spending on durable goods has weakened.

With job growth likely to remain slower this summer, consumers won't be in much of a mood to borrow—or spend. That's why the Fed is trying to cushion the blow to the economy by allowing interest rates to fall. If lower rates can lure shoppers back into stores, the Fed might just pull off its much-hoped-for soft landing. But if consumers continue to sit at home as they did in the first half, the economy could easily slip into a recession.

FACTORY WAGE GROWTH SLOWS



THE WEEK AHEAD

BUSINESS INVENTORIES

Monday, July 17, 10 a.m.

Inventories at the nation's factories, wholesalers, and retailers most likely increased by 0.7% in May, slightly more than the 0.6% increase posted in April. Manufacturers have already reported a 0.6% rise in their stockpiles for May. And with consumer spending on goods so sluggish, it's likely that retail inventories grew a bit faster, with supplies of unsold new cars rising very rapidly. Total business sales rose a scant 0.1% in May, after jumping 1.9% in April. Retail sales advanced a slim 0.1% in May, and wholesale deliveries rose 0.5%, but a 0.2% decline in factory shipments offset those gains. As a result, the May ratio

of inventories to sales rose, indicating some unintended backup of inventories.

MERCHANDISE TRADE DEFICIT

Tuesday, July 18, 8:30 a.m.

The trade deficit probably widened to about \$9.5 billion in May from \$8.3 billion in April. A sharp 16.6% jump in customs-duty payments suggests that imports increased in May after falling 2.6% in April. Exports, up 0.8% in April to a record high of \$30.6 billion, likely were flat or down slightly in May.

CONSUMER PRICE INDEX

Wednesday, July 19, 8:30 a.m.

Consumer prices probably increased a modest 0.3% in June, half the 0.6% rise in May. Food and energy prices likely

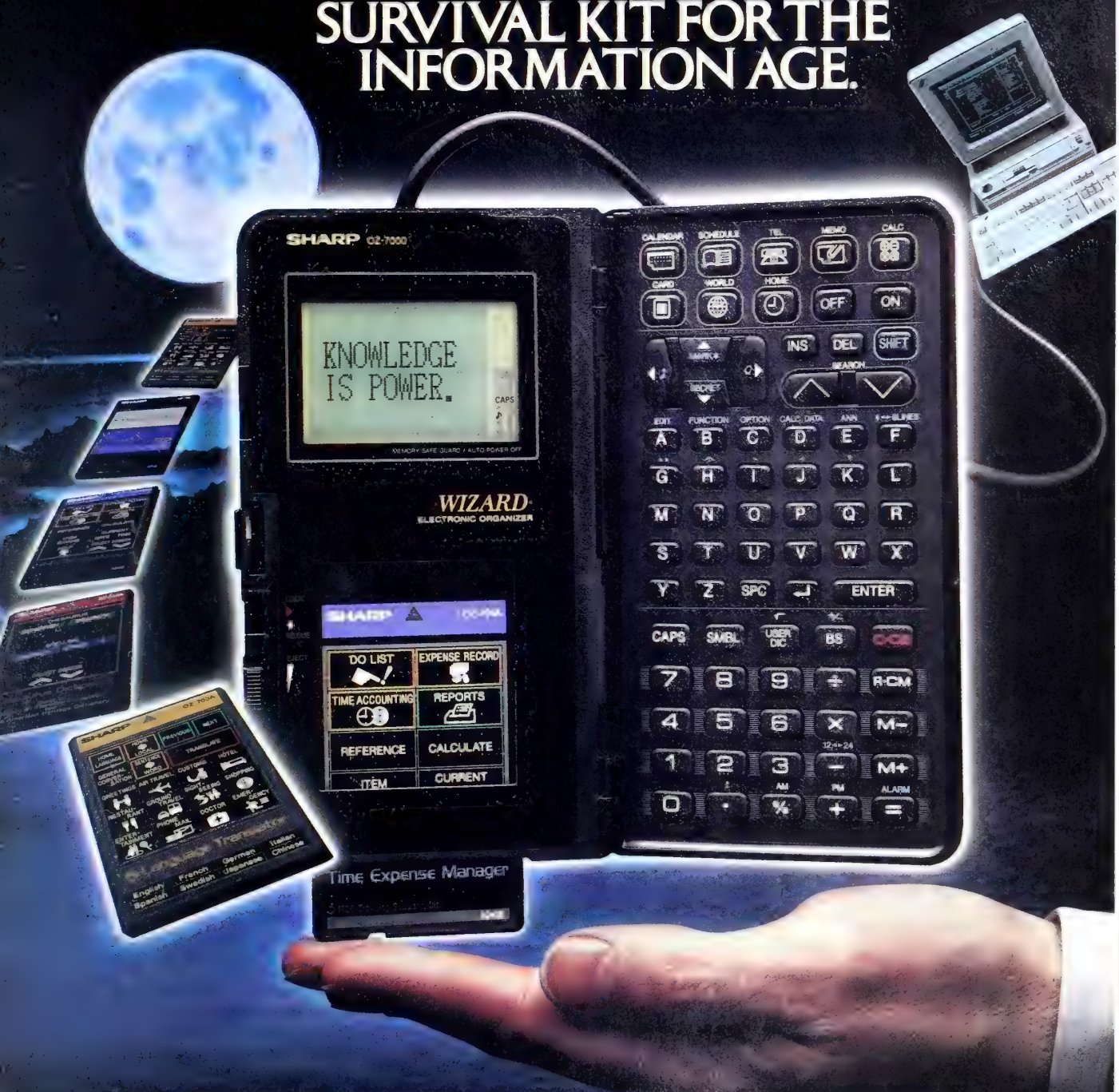
fell back in June after rising strongly the month before. Weakening demand for consumer goods should begin to reduce price pressures for products other than food and energy. Such prices grew 0.4% in May. But inflation in nonenergy services, up 0.5% in May, remains a sticky problem.

HOUSING STARTS

Wednesday, July 19, 8:30 a.m.

New home starts most likely rose a bit in June to an annual rate of 1.34 million. That's up from the weak 1.3 million pace of May, but 8.4% below year-ago levels. Housing permits, as well as sales of new single-family homes, increased in both April and May, suggesting that homebuilding may have rebounded in June.

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VINTAGE GOLDSMITH: A BIG, BRASH DEAL THAT ECHOES HIS MOVES IN THE U.S.



TAKEOVERS

JULY 24, 1989

STORMING A BRITISH BLUE CHIP

GOLDSMITH'S \$21 BILLION BID FOR BAT SIGNALS A NEW TAKEOVER ERA IN EUROPE

It had a familiar ring. After a decade of raiding and breaking up wayward U.S. conglomerates, the buccaneering Anglo-French financier Sir James M. Goldsmith now was lecturing about the urgent need to "liberate" his latest target. But this time, the action was back home in Britain, where he made his first fortune in the grocery business. Together with old pals Jacob Rothschild and Australia's Kerry Packer, Sir Jimmy launched on July 11 a \$21.3 billion bid for conglomerate BAT Industries PLC, the owner of such familiar stateside properties as Saks Fifth Avenue, Marshall Field, Farmers Group insurance, and Kool cigarettes.

Made up of a monster \$17 billion slug

of debt to be distributed by Drexel Burnham Lambert Inc. and Bankers Trust Co., plus a sprinkling of equity in the trio's new investment vehicle, the offer stunned London's financial markets. The City's traders only recently have gotten a taste of big leveraged buyouts and such American innovations as junk bonds. As one buyout specialist puts it, the current competition between two \$3.4 billion LBO proposals for British supermarket chain Gateway Foodmarkets Ltd. "is one thing, and this is entirely different."

Clearly, a new day is dawning on the Atlantic's eastern shores. The bid for BAT triggered a runup in the shares of other asset-rich British companies, in-

cluding Cadbury Schweppes PLC and Pearson PLC. It also depressed quotes for BAT bonds, as traders worried that the company will become overloaded with new debt. One Euromarket specialist noted that "the U. K. corporate bondholder now may be exposed to the same 'event risk' as U. S. bondholders."

A MODEL. Patrick Sheehy, BAT's chairman, wasted no time in spurning the bid, although it's expected eventually to be sweetened. It's already four times the size of the largest previous European takeover, announced only a week earlier by Hanson PLC for Consolidated Gold Fields PLC. And it ranks just behind the \$25.1 billion takeover of RJR Nabisco Inc. by Kohlberg Kravis Roberts & Co. As it

turns out, that deal is a model for the Goldsmith group of a conglomerate un-
der its vast diversification.

Just as KKR did in its fight for RJR, Goldsmith and friends are settling in for long siege. The BAT share price on July 2 settled back to \$14.38, just a modest premium over the \$13.94 value set on the deal. The reason: Big investors turned thumbs down on a proposal that features so much paper and no cash. Goldsmith's group, which owns just 1.25% of BAT, is expected to return with a clutch of new British and French investors and cash now that it has effectively put BAT in play. As one admiring rival LBO financier notes: "This was a brilliant sighting shot."

SOLDIERS THREE. It's vintage Goldsmith: a big, brash, unconventional deal that echoes his moves in the U.S. Here, Goldsmith made fortune and generated megawatts of controversy by raiding companies such as St. Regis, Crown Zellerbach, and Goodyear Tire & Rubber. More often than not he was joined by longtime friends Rothchild, the art-fancying scion of the banking family, and Packer, a crick-
et- and polo-loving media entrepreneur and industrialist. They have become wealthier together.

BAT is one of Britain's bluest blue chips, No. 4 in market value. In targeting it, Goldsmith is once again challenging the British Establishment he so often has thumbed his nose at in the past. Before his return in March to form an investment vehicle with Rothschild, Goldsmith complained regularly about Britain's hidebound business and political culture. Now, he says, Britain looks pretty good."

The raid on BAT also challenges the basic strategy of such tobacco-based companies as Philip Morris Inc. and American Brands Inc.: to use the strong cash flow from cigarettes to diversify into new—and growing—businesses. Goldsmith maintains that for the most part, diversifications haven't succeeded in boosting tobacco companies' stock prices.

Take BAT. Despite its wide array of assets, which beyond Brown & Williamson Tobacco Corp. includes retailing, insurance, and paper interests (table), its recent record in the stock market has been anything but sparkling. Its price-

earnings ratio has consistently underperformed that of the overall market.

You needn't dig deep into BAT's financials to see why. The company's pretax earnings have seasawed over the past five years. Last year, at \$2.6 billion on sales of \$28.9 billion, earnings were just 14% higher than in 1984. That's one reason Goldsmith argues that "BAT is a quintessentially supreme example of a company that needs unbundling."

If he's to accomplish that, it seems

over. Sheehy, himself a veteran of BAT's outposts in former British colonies, condemned the bid as an "ill-conceived attempt at financial engineering." And David Verey, a director of BAT's investment bank, Lazard Brothers Ltd., insists that longtime BAT investors will rally round. He adds: "Shareholder loyalty will be surprising to Sir James."

'UNACCEPTABLE.' At a certain price, yes. For their shares, the current bid offers investors 80%, or about \$11.15, in vari-

ous notes and the remaining 20% in equity in Anglo Group PLC, a new concern controlled by the bidders. "It is totally unacceptable," sniffs John S. Kent, a director of Sun Alliance Investment Management, holder of 1% of BAT. Such sentiment may change if the bid is sweetened.

While the raiders may encounter government scrutiny, a major political row is unlikely in Britain. But that won't stop Sheehy from trying. What's more, in Los Angeles-based Farmers Group Inc., BAT may have ac-

quired a deadly poison pill. It took BAT months of arduous struggle with state regulators and \$5.2 billion, about \$1 billion over its initial offer, to clinch the Farmers deal last August. To avoid possible regulatory problems, Goldsmith plans to set up a trust to manage Farmers until he can find a buyer.

Unloading BAT's other interests could prove far easier. The stars are British insurers Eagle Star Insurance Co. and Allied Dunbar Assurance PLC. Plans to eliminate trade barriers in Europe in 1992 could make them attractive to expanding U.S. or European buyers.

BAT has cleaned up most of its retailing problems in the U.S., notably by liquidating Gimbel's department stores. The crown jewels are the Saks Fifth Avenue and Marshall Field & Co. chains, plus the Argos catalogue warehouses in Britain. "The U.S. retail properties are world-class," says Gilbert W. Harrison, chairman of Financo Inc., a New York investment bank.

With such stellar assets, there's obviously plenty of potential profit in a BAT breakup. That has lured Drexel into its first big transatlantic takeover battle. To many other European companies, that alone should serve as fair warning.

By Richard A. Melcher in London



THE PAYOFF SIR JIMMY SEES IN BAT

Segment	1988 sales	Estimated breakup value
Billions of dollars		
FINANCIAL SERVICES	\$6.3*	\$13.9
Farmers Group, Eagle Star, Allied Dunbar		
TOBACCO	11.5	10.8
Kool, Raleigh, Viceroy brands		
RETAILING	6.7	3.9
Marshall Field, Breuners', Saks Fifth Avenue		
PAPER	2.8	2.9
Appleton Papers, Wiggins Teape		
GROSS ASSET VALUE		31.5
TOTAL DEBT, NET OF CASH		-2.9
NET ASSET VALUE		28.6
GOLDSMITH'S BID		21.3

*Does not include Farmers Group
DATA: COMPANY REPORTS, UBS PHILLIPS & DREW ESTIMATES

certain that his group must bid higher and bid with more cash. The former British-American Tobacco Co., which dates back to the bust-up of the James B. Duke tobacco monopoly in the U.S., is marshaling a considerable defense. Although management says it won't take the company private, financiers don't rule out some form of corporate make-



ACCOUNTING

THE NEW NUMBERS GAME IN ACCOUNTING

A pressing need to cut costs is driving six of the Big Eight to pair up

The Big Eight soon may become the Big Five—and that may mean big headaches for the accountants and those they serve.

On July 7, two pairs of big firms announced merger plans. Arthur Andersen & Co. and Price Waterhouse opened 60 days of talks that could lead to the world's largest firm, with \$5.1 billion in revenue (table). Deloitte Haskins & Sells and Touche Ross & Co. said they have agreed to form what will be the No. 4 firm, with \$3.7 billion in revenue. Days earlier, U.S. partners at Ernst & Whinney and Arthur Young approved merging to form Ernst & Young, which now will be No. 2, with \$4.2 billion in revenue.

'TERRIBLE TEMPTATION.' The new megafirms promise global reach, broader services, and one-stop shopping for auditing and consulting needs. Yet beyond the press releases, it's clear that the mergers are driven by a pressing need to cut costs as competition for clients heats up. The firms also don't dwell on the challenges their planned mergers could face: defections of whole offices, dissension in the ranks, confused clients. Observes Charles M. La-

Mantia, chief of consultant Arthur D. Little Inc.: "Professional services are a business where two plus two don't often even equal four."

The firms with the urge to merge aren't intimidated by such hurdles. They see only the success of KPMG Peat Marwick, where revenues have grown 44%, to \$3.9 billion, since the 1986 merger of

Peat Marwick International with Klynveld Main Goerdeler. The growth in revenues, as high as that of smaller firms, flows from an operation with 510 fewer partners, 127 fewer offices, and 560 fewer employees than before the merger. Translation: More revenue and lower overhead mean more profit per partner.

Critics cite another motivation—ego. Andersen, the longtime world leader before the KPMG merger toppled it, has lusted for the No. 1 title ever since. Says Keith Hamill, a former partner at Price Waterhouse and now director of financial control at Guinness PLC, the London-based spirits company: "If you've been the leader before, and you find yourself no longer there, there is a terrible temptation to get it back again."

DEFECTIONS. But linking arms isn't easy. Price in 1984 jilted its suitor, Deloitte Haskins, after Price's British partners shunned the deal. While such a brusque rejection isn't considered likely this time, both mergers face likely piecemeal desertions by independent-minded foreign offices. "You are going to see some defections overseas," predict James C. Emerson, editor of *The Big Eight Review*, an industry newsletter. "Some of them are going to be big."

At the offices that do remain, layoffs, low morale, or both appear inevitable. Deloitte and Touche, for example, have 7 overlapping offices in the U.S. and are in 56 of the same foreign countries. Thomas W. Jones, treasurer of John Hancock Mutual

WHAT ACCOUNTING'S MERGER WAVE WILL LEAVE IN ITS WAKE

ARTHUR ANDERSON/PRICE WATERHOUSE

1988 worldwide revenues: \$5.1 billion

If the firms' talks lead to a merger, the result will be the world's biggest firm with specialties in banking, communications, information technology, law, and energy

ERNST & YOUNG 1988 worldwide revenues: \$4.2 billion

Ernst & Whinney and Arthur Young are forming a partnership emphasizing banking, high tech, and health care

KPMG 1988 worldwide revenues: \$3.9 billion

The 1986 combination of Peat Marwick and KMG Main Hurdman was the first of the mergers. Its specialties: banking, information technology, and insurance

DELOITTE & TOUCHE 1988 worldwide revenues: \$3.7 billion

Deloitte Haskins & Sells is joining with Touche Ross & Co. Together, the firm will specialize in financial services, manufacturing, retailing, and business appraisals

COOPERS & LYBRAND 1988 worldwide revenues: \$2.6 billion

Alone among the Big Eight to resist the merger wave. Concentrations: communications, energy, utilities

DATA: THE BIG EIGHT REVIEW

Life Insurance Co. and a former Arthur Young principal, says all the merged firms face cuts. "A whole layer of middle managers and partners will be stripped out," he says.

This no doubt will create morale problems, as partners will have to share pow-

er with their new in-laws. At Andersen, where auditors grudgingly gave consultants more say in running the firm early this year, renewed turmoil seems inevitable. There's only one consultant on Price's 16-member board. And while consulting makes up fully 40% of Andersen's revenue, it's a nonfactor at Price. This will be a hard sell, particularly because the merger is driven by auditors," says Gresham Brebach, an ex-Andersen consultant who left the firm in a power-sharing dispute.

Competitors are aiming to lure away affected talent. Coopers & Lybrand, the only former Big Eight firm not eyeing marriage, hopes to attract refugees, as do many second-tier firms. "We intend to recruit very aggressively," says Kenneth Solomon, a managing partner of Philadelphia-based Laventhol & Horwath, the largest firm in the second tier. "We might even take out an ad."

FAMILY FEUDS. Superficially, the mergers present a myriad of conflicts of interest: for example, Coca-Cola and PepsiCo could share auditors, as would General Motors and Chrysler. Yet most companies shrug off such potential conflicts.

Clients are more likely to feel shortchanged in other ways. The advent of one-stop shopping for auditing and consulting services, which sounds so promising to the merging firms, may prove illusory. Many companies expressly bar their auditors from performing major consulting work. Already, observers such as Northwestern University Associate Professor Thomas Lys point out that Andersen's extensive consulting work for IBM is jeopardized because Price audits Big Blue's books. Choosing which side of the firm should keep serving IBM may spark the first family feud.

Moreover, clients that want to switch firms will be limited. "Now, you're going to have five firms, minus the one who's currently auditing you," notes Ronald Widwitz, CEO of Chicago-based Helene Curtis Industries Inc. Or take the big service firm that recently dismissed Deloitte Haskins. Just as it was signing on Pricewaterhouse, presto, Deloitte and Touche merge. "It's comical," laughs an executive at the service firm. If all their clients remain in such good humor, the accountants can count themselves lucky.

By David Greising in Chicago, with Leah Nathans in New York, Laura Jereski in Boston, and bureau reports

'SOMEBODY IS NOT TELLING THE TRUTH'

Evidence suggests that somebody may be former HUD chief Pierce

So far, the role of former Housing & Urban Development Secretary Samuel R. Pierce Jr. in the massive HUD scandal has been little more than the fodder for jokes. "So you were in charge?" he was asked at a recent congressional hearing on the award of federal housing grants to high-powered Republican politicians. "No," answered the man known within the Reagan Administration as "the dud at HUD."

Now, the probe is about to take a more ominous turn for the former HUD chief. A House Government Operations subcommittee has developed new evidence that Pierce played a more active

orders" in pushing awards for nine grants under the scandal-ridden, \$122 million Section 8 Moderate Rehabilitation program, according to a knowledgeable source. The grants include projects in Puerto Rico, Jacksonville, Fla., and Las Vegas that have been under scrutiny by Congress and the Justice Dept. They involved intervention by influential Republican consultants, including Frederick M. Bush, a top campaign fund-raiser for George Bush (and no relation to the President), and Philip Winn, the U.S. Ambassador to Switzerland and former HUD official.

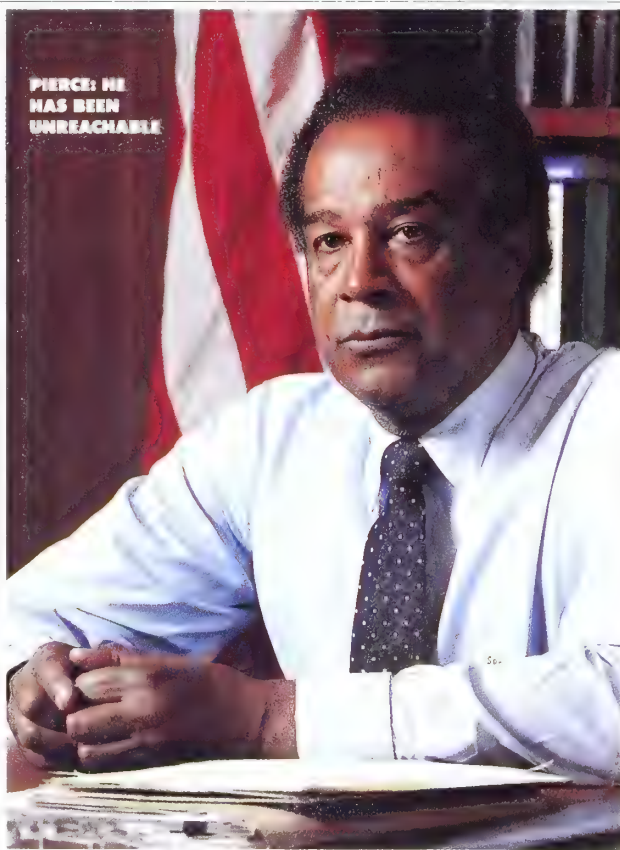
Such testimony from Dean, Pierce's

former executive assistant at HUD, would flatly contradict Pierce's repeated assertions under oath last May that he left the final decisions on those grants to Dean and two other HUD officials. "Somebody is not telling the truth," says Representative Tom Lantos (D-Calif.), the subcommittee chairman.

BIG FEES. According to HUD Inspector General Paul A. Adams, senior HUD officials routinely awarded multimillion-dollar grants to cities at the request of influential GOP consultants, who reaped hundreds of thousands of dollars in fees for their lobbying efforts. When lawmakers questioned Pierce about the handling of the grants, he downplayed his role. "I never told these people to fund anything," he insisted under oath. "I de-

cided not to get into the decision-making process." Pierce says that he instructed his staff only to give "serious consideration" to certain projects when such Republican heavyweights as former Interior Secretary James G. Watt contacted him about HUD grants.

But others have a different version of events at the top of the \$20 billion agency. Thomas T. Demery, another former high-ranking HUD official, has testified



role in doling out housing goodies than he indicated when he testified on May 25. Pierce's involvement, says subcommittee staff director Stuart E. Weisberg, "is inconsistent with his testimony."

In addition, BUSINESS WEEK has learned that a central figure in the scandal, Deborah Gore Dean, is negotiating with the panel for a possible grant of immunity. She is prepared to testify that she was acting under Pierce's "direct

to Congress that he was pressured by Dean to carry out funding for the projects directly approved by Pierce. Demery and Dean were enemies while at HUD, but Dean now is prepared to corroborate her rival's testimony.

In the past, Dean has declined to testify or even informally discuss her role in the HUD scandals. But her attorneys have been negotiating with the Lantos subcommittee about a possible appearance, and knowledgeable sources say it is likely she will agree to talk if she is granted congressional immunity. Such a grant would protect her from prosecution based on any self-incriminating information she provides to Congress.

NECK-DEEP IN FRAUD. Judging from the previous testimony of Demery and Republican consultants before the Lantos panel, Dean would have quite a story to tell. She used the \$368 million moderate rehabilitation program to shower favored developers and consultants with HUD contracts, according to the witnesses so far. Indeed, Dean was widely regarded as the behind-the-scenes power at the agency when it was neck-deep in fraud, mismanagement, and political-influence peddling. A total of 630 criminal probes are now under way, and current HUD Secretary Jack F. Kemp has estimated that abuses during Pierce's eight years at the helm could cost taxpayers more than \$2 billion.

Despite repeated attempts to contact him, Pierce could not be reached for comment. He has been "on travel," according to a former aide. Congressional investigators also have been unable to contact him. Formal notification that the Lantos' subcommittee wants him to return to clarify his earlier testimony ultimately was sent to his mailing address.

While it's unclear whether Pierce's involvement in awarding contracts would constitute criminal wrongdoing, discrepancies in the testimony of three key figures in the HUD scandal raise serious questions of possible perjury. Even Republicans on the subcommittee, such as Representative Christopher Shays (R-Conn.), now question Pierce's denials that he knew anything about his aides' intrigues. "I think he knows more than he lets on," Shays says. "For a HUD Secretary to be so emphatic that he didn't push programs, that defies the imagination." If Dean testifies as expected, "someone will have perjured themselves."

For some senior Reagan Administration officials and top GOP operatives, an appearance by Dean could move the widening scandal from the political arena into the courtroom. Says Lantos: "People are going to jail in this thing."

By [illegible] in Washington

MARKETING

DOES THIS CEREAL BELONG IN THE MEDICINE CABINET?

P&G claims that General Mills' cholesterol-reducing Benefit is a drug

Is General Mills Inc. selling over-the-counter drugs on the cereal shelf alongside Cheerios and Wheaties? A competitor says yes and is demanding that the Food & Drug Administration put a stop to it.

Benefit, a recently introduced ready-to-eat cereal that General Mills says lowers blood cholesterol by at least 6%, is the immediate issue. The larger concern is what the government plans to do

about the proliferation of health claims made by food marketers. Says John McMillin, a food analyst at Prudential Bache Securities Inc.: "You are seeing the grocery store turn into a pharmacy and it's got the FDA in a bit of a pickle."

Procter & Gamble Co. has petitioned the FDA and demanded that Benefit be removed from store shelves. While P&G doesn't sell cereal, its Metamucil laxative could potentially compete with Be-

nefit. Both products are loaded with husks of psyllium, a high-fiber grain grown mainly in India. Scientific studies including one sponsored by P&G and completed last year at the Heart Disease Prevention Clinic at the University of Minnesota, suggest that ingesting psyllium lowers the amount of blood-borne cholesterol.

P&G wants to advertise Metamucil as a cholesterol reducer, but so far, the FDA says no. Evidence supplied by P&G to support its claims is insufficient, says the agency. Yet General Mills, citing a company-sponsored study from the same laboratory hired by P&G, is making a similar cholesterol claim for Benefit, with no interference so far from the FDA. The product has been in test markets for weeks, and by the end of July should be avail-

able to 25% to 30% of the U.S. public, mainly in the Midwest. P&G calls the inconsistent treatment "blatantly unfair."

Why the discrepancy? Only in recent years have food companies begun linking their products with disease prevention, and regulations have not kept pace. One reason is structural: The FDA has separate bureaucracies overseeing drugs and foods, and each is governed by different sets of regulations. Metamucil comes under the bureau of drugs. Benefit would be overseen by the Center for



BOTH BENEFIT AND METAMUCIL CONTAIN PSYLLIUM, AND BENEFIT EVEN HAS A WARNING LABEL

Gradually Increase Amount
We suggest starting with one-half serving of Benefit and gradually increasing to a full serving. Always consume Benefit with milk. If digestive discomfort occurs, consult a physician and avoid laxatives. Children should limit consumption to one serving per day.

Food Safety, which once prohibited all health claims on food, but whose regulations are now murky at best.

Another reason is political. Kellogg Co. opened the floodgate on health claims in 1984 when it began selling its All-Bran cereal as a cancer preventive—with the blessing of the National Cancer Institute. The FDA considered taking strong action against Kellogg but backed off under pressure from the Office of Management & Budget, which reviews proposed regulations. Since then, the agency has proposed two sets of rules on food health claims, but the latest version has been shot down by the OMB for being too strong and criticized by consumer groups and Congress for being too weak.

Psyllium's status as both a food and a drug complicates matters. The grain, says the food side at the FDA, is "generally regarded as safe" for certain limited uses. Like oat bran, another putative cholesterol reducer found in Benefit, psyllium is rich in soluble fiber.

The crux of the dispute is the printed matter on Benefit's package. It trumpets the results of company-sponsored experiments that demonstrate a 9% reduction in cholesterol among people eating the cereal in conjunction with a low-fat diet. Two-thirds of that reduction is attributed to Benefit. Those who believe the cereal is crossing the border between food and drugs cite the warning labels printed on the side panel of the cereal box (illustration).

'CHOW HOUNDS.' In the absence of any clear federal policy, the states are beginning to act. A group of 10 attorneys general known as the "Chow Hounds," mainly from big states such as New York and California, are banding together to pressure foodmakers they believe are making overblown health claims. Stephen H. Gardner, assistant attorney general for Texas and a member of the group, says he has looked at Benefit's marketing program and has sent a letter to General Mills saying, in effect: "Don't try to market it that way in Texas."

General Mills executives, who were more than happy to promote their new product to the press last spring, declined to speak to BUSINESS WEEK about the Benefit controversy. A spokesman says the company stands behind its advertising: "We have a very rigid internal approval system."

The FDA is now considering General Mills' claim. The agency could come under pressure to move quickly, since Kellogg is about to begin test-marketing Bran Buds with psyllium. Until the FDA takes a stand, one man's breakfast will remain another man's medicine.

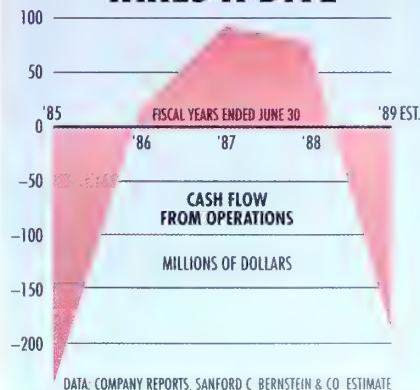
By Russell Mitchell in Minneapolis, Zachary Schiller in Cleveland, and John Carey in Washington

CAN FRED WANG KEEP CUSTOMERS FROM BOLTING?

The minimaker's financial woes may spur more client defections



WANG'S CASH FLOW TAKES A DIVE



Times have rarely been rougher for Fred Wang. Since revealing a June fiscal-year loss that could run as high as \$115 million, the president of Wang Laboratories Inc. has been in heavy negotiations with bankers to shore up the company's financial health. And even as he ministers to the minicomputer maker's needs, he's also helping to care for his dad, company founder and Chairman An Wang, who is being treated for esophageal cancer. "We're all amazed at how positive his attitude has been," he says.

Despite his optimism, Fred Wang looks drawn as he sits in his penthouse office at Wang's Lowell (Mass.) headquarters. He concedes that the company needs help—perhaps even a partner. "Neither of us is looking to sell," Wang says of the options he and his father have mulled. But he adds: "We are really very open to what we would consider." Going it alone isn't working: Fiscal 1989 sales have slipped, to about \$3 billion, while high overhead helped deepen the operating cash flow deficit to some \$200 million (chart). Standard & Poor's Corp. in July cut Wang's credit ratings.

But Fred Wang's toughest challenge may be persuading skittish customers to stay loyal. One bad sign: Revenues from its profitable service and maintenance operation, one-third of the company's total, last year sank some 6%. That's after several years of double-digit growth. Why? "Needless to say, we share the widespread concern about the future of Wang," says Jerome Ginsberg, assistant vice-president of Equitable Life Assurance's headquarters information group. "Especially now that it looks as if Dr. Wang won't be in charge much longer."

SLOW RESPONSE. Ginsberg is considering a switch to an independent, third-party servicer to trim an annual bill that runs between \$50,000 and \$100,000. In some regions, including Dallas and Seattle-Tacoma, rivals claim as much as 30% of Wang servicing has gone to independents. The industry average is 12%.

Certainly, Wang is not alone among minicomputer makers in its troubles (page 76). They've all seen sales hurt by customers who are switching from minis to networks of personal computers, and competition for service contracts is widespread. But Wang's problems have been amplified by a high cost structure, a poorly regarded sales and maintenance force, and a slow response to customer demand for computers that communicate with those of other makers. These troubles aren't new: Fred Wang has tried unsuccessfully to fix them since taking over operations three years ago.

Despite the debut of lots of new products, Wang's minicomputer market share has been stuck around 4%. Now, customers say, the slip in service contracts could erode the base. Says Dennis Barnes, a senior systems analyst at Metropolitan Life Capital Corp., a unit of the big insurer: "There's going to be in-

creased pressure in the next few weeks for companies to drop Wang because of its financial problems."

The evidence of looming trouble is mounting: Equitable's real estate operation, with a Wang mini in each of its 15 regional offices and seven systems at its Atlanta headquarters, is moving to an IBM-compatible system. And, says consultant John McCarthy of Forrester Research Inc. in Cambridge, Mass., other companies, including Warner Communications and Northwestern Mutual Life Insurance, also are contemplating a switch. Even Bank of Boston, Wang's leading bank, has been selectively replacing its Wangs as its needs grow.

Such defections are forcing Wang to

rethink his goals for the company. He says he would still like to focus on such vertical markets as law and financial-services firms. But he knows he must lower overhead. Wang's revenue-per-employee comes to nearly \$20,000 less than the industry average of \$120,000. This, says Dale Kutnick, president of Westport (Conn.) consultant Meta Group, implies that up to 3,000 of Wang's 28,000 employees could be cut. Already, Wang has targeted 4,800 administrative jobs for attrition of about 10%.

And he's considering some other, more intriguing options. For one, a marketing joint venture. For another, a financial partnership. And he admits that his opposition to selling the company—

and the family's 38% stake—"is very difficult to say, given the magnitude of the third- and fourth-quarter loss."

But it may be even more troublesome to lure a partner when Wang's greatest asset, its base of installed systems, is coveted by interlopers. In May, Data General Corp. introduced a converter that can move some Wang programs to Data General machines. And customers are noticing a new, harder pitch on office automation, a Wang forte, from Digital Equipment Corp.'s sales force. "Wang won't go up in flames," predicts Forrester's McCarthy. "They'll slowly bleed to death." Not if Fred Wang can tighten the tourniquet fast enough.

By Laura Jereski in Lowell, Mass.

PEOPLE

'A LOT OF PEOPLE DON'T KNOW WHO MEL KLEIN IS'

But he's organizing a \$3.3 billion bid for American Medical International

Mel Klein doesn't hanker after fame. He runs his merchant banking shop out of Corpus Christi, Tex., a sleepy town 215 miles south of Houston and a world away from the clamor of Wall Street. The receptionist at his office answers the phone by repeating the last four digits of its number. And an occasional column he writes for the local paper rarely strays from careful, measured stances on economic issues. "A lot of people don't know who Mel Klein is," says Jerry Norman, editorial page editor of the *Corpus Christi Caller Times*. And

that's O. K. with Klein. "We like to lead quiet, anonymous lives," he says.

In the closed circle of big-time U.S. dealmakers, however, Melvyn N. Klein is a familiar face. For years he has served on boards of directors as point man for the powerful Pritzker family of Chicago. He owns a stake in properties ranging from a Dallas lead smelter to the movie *Sophie's Choice*. Now, the 47-year-old has teamed with the Pritzkers, former United Technologies Corp. Chairman Harry J. Gray, and Donaldson, Lufkin & Jenrette Inc. co-founder Dan Lufkin in a buyout fund. These heavy-

weights rounded up \$550 million from institutional investors to launch Harry Gray, Mel Klein & Partners LP (table).

Their latest foray is the \$3.3 billion buyout of American Medical International Inc., the troubled Beverly Hills health care company. The Klein group is expected to begin a \$28-a-share cash-and-paper tender offer on July 14 for nearly all of AMI's stock. Klein and Gray's partnership put up \$150 million. First Boston Corp. took a \$100 million equity stake and will underwrite \$713 million in junk bonds. Chemical Bank will arrange a syndicate to complete the financing.

'A BULLDOG.' Klein earned his spurs well before the merger-happy 1980s. After earning a law degree at Columbia University, he raised funds for Huber Humphrey's Presidential bid in 1968. The Humphrey family introduced him to William H. Donaldson, another DLJ founder, who gave him a job. At DLJ Klein quickly became known for his fe-



KLEIN IN CORPUS CHRISTI: THE LOW-KEY DEALMAKER IS A HOUSEHOLD NAME—IN BIG-TIME INVESTORS' HOUSEHOLDS

WHO'S INVESTING WITH MEL KLEIN AND HARRY GRAY

Investors	Millions of dollars
L.A. COUNTY EMPLOYEES RETIREMENT	\$150
PRITZKER FAMILY	50
GENERAL MOTORS PENSION FUND	50
N.Y. STATE & LOCAL RETIREMENT FUND	50
BOEING EMPLOYEE RETIREMENT PLAN	35
EQUITABLE LIFE ASSURANCE SOCIETY	25
AMERICAN HOME ASSURANCE	25
WELLS FARGO	25
FIRST CHICAGO INVESTMENT	25
MEL KLEIN, HARRY GRAY, DAN LUFKIN	10
VARIOUS INVESTORS	105
TOTAL	\$550

DATA: MEL KLEIN & PARTNERS

precious energy and sharp eye for detail. says Lufkin: "He was just a bulldog."

Lufkin introduced Klein to the Pritzkers in 1969. Klein wasted little time capitalizing on the meeting. Within a month, he called on behalf of Bush Universal Inc., a shoe machinery maker in urgent need of cash. The Pritzkers came up with the money and put Klein on the board of directors. Jay A. Pritzker recalls that he was impressed by Klein's intelligence and unfazed by his tender years—Klein was only 27 at the time. "Age doesn't matter a hell of a lot to me," says Pritzker.

Bush Universal, which Katy Industries Inc. acquired in 1975, was the first in a long line of deals with the Pritzkers. The Chicago family parked Klein on boards of directors of smaller companies they were trying to turn around. In 1977, Klein became chief executive officer of Altamil Corp., a struggling aerospace, packaging, and truck equipment company based in New Orleans. Altamil went private in 1984, so current financial results are hard to come by. But the Pritzkers' loyalty to Klein indicates that he has made money for them.

When Harry Gray was looking for someone to divest Mostek Corp., United Technologies' money-losing chipmaker, he called Klein. In November, 1985, Klein managed to get \$71 million for Mostek, which United Technologies had bought six years earlier for \$314 million. "It was about the best they could do," says Mostek founder L. J. Sevin.

KICKING TIRES. Gray agrees. "He did a good job for UTC," he says. After Gray retired from United Technologies in 1986, the two began raising capital for their buyout fund, which has bid on Federated Department Stores, Ohio Mattress, and RJR Nabisco. Klein and Gray kicked the tires on plenty of other deals, including MCorp, the beleaguered Dallas bank, without making an offer.

Klein and Gray finally landed one with AMI. Now, all they have to do is make it work. In the first nine months of fiscal 1989, AMI earned after taxes only \$39.7 million before extraordinary items on revenues of \$2 billion. In the year-earlier period, it earned \$80.2 million on \$2.3 billion in revenues. Gray and Klein are in league about their turnaround plans, but people familiar with the bidding for AMI say any acquirer will probably have to unload at least \$1 billion in assets. The company's European operations, valued at about \$450 million, are a prime candidate for divestiture.

Klein will have his hands full at AMI. In the meantime, don't look for him in the gossip columns. Mel Klein likes the quiet life. He plans to keep it that way.

By Todd Vogel in Stamford, Conn., with Patrick E. Cole in Los Angeles and Resa W. King in Farmington, Conn.

TAKEOVERS



TESSLER, LEIGHTMAN, AND LEVINE HOPE TO MOVE PRODUCTS OUT OF THE KOSHER-FOOD AISLE

MAN OH MANISCHEWITZ

LBO specialist Levine Tessler's big plans for its biggest deal

Henry R. Kravis, the driving force behind leveraged-buyout behemoth Kohlberg Kravis Roberts & Co., can have his megadeals. For Arthur E. Levine, a 37-year-old radio executive turned LBO specialist, big isn't necessarily beautiful. He's making no apologies for the \$44.6 million deal that his firm, Levine, Tessler, Leichtman & Co., made to buy matzoh maker B. Manischewitz Co. So it's not exactly RJR Nabisco Inc. "But," says Levine, "we're not paying \$25 billion for it either."

Working from a Beverly Hills office, Levine and two partners run a bargain-basement LBO operation. Looking for niche companies at bite-size prices, they have managed to buy two small personal-computer resellers. They have tried to get some big names, bidding for the Eddie Bauer Inc. sporting-goods chain and Chi-Chi's Inc. Mexican restaurants. But until striking its deal to buy Manischewitz, the two-year-old firm hadn't bagged a nationally known outfit.

Levine Tessler won the Jersey City (N.J.) company on July 5, outbidding some bigger boys: the Belzberg family of Canada and National Foods Inc., the maker of Hebrew National deli meats and pickles. "We think the brand name has been underexploited," Levine says. Moreover, after years of slow growth, the staid \$1 billion-plus kosher-foods market is beginning to pick up. He reckons Manischewitz is ripe for expansion.

Levine knows something about building a promising company. He helped Westwood One Inc. founder Norman J.

Pattiz build the radio programmer into the nation's second largest, departing in 1986 after disagreeing with Pattiz on strategy. He launched the LBO firm with his wife, Lauren B. Leichtman, a former Securities & Exchange Commission lawyer, and Lenard B. Tessler, an accountant experienced at restructuring ailing energy companies.

Levine Tessler specializes in friendly deals with management help, shunning liquidations. "We don't have a slash-and-burn mentality," Tessler says. Instead, they look for a core company to build on, such as Forsythe Inc., the St. Louis computer reseller they bought in December. Levine Tessler then added Omni Micro Stores for \$2 million and recently agreed to buy Compumat Inc. for \$29 million.

Levine wants to build up Manischewitz, a 101-year-old company that has rarely ventured beyond its long-established base as the leading baker of matzoh. It also makes soups, processed fish, and cakes, while licensing its name to an independent winery that makes sweet kosher wines. Last year, it earned \$2.9 million on revenues of \$30 million.

MORE LICENSING. The firm plans to expand Manischewitz by adding new products and marketing some old ones better. They also aim to increase licensing of the firm's name and gain a broader consumer base through acquisitions. Says Tessler: "Part of the growth in the product is going to have to come from getting Manischewitz out of the kosher-food aisle"—tough to achieve. Many specialty-food makers want better display. Tessler envisions selling rye bread in the bakery department and kosher pickles next to nonkosher condiments.

To get its chance to run the company, Levine Tessler still must win approval from Manischewitz' shareholders. That shouldn't be a problem. Then, it will be up to the Beverly Hills bargain hunters to show how good a deal they really got.

By Kathleen Kerwin in Beverly Hills

THE NBA SCORES A FIRST IN THE FRONT OFFICE

Two black businessmen are buying the Denver Nuggets



LEE (LEFT) AND BYNOE: A MAKEOVER ISN'T NECESSARY—AND A QUICK RETURN ISN'T LIKELY

Jesse Jackson calls him "the Godfather." He has played tennis with Senator Edward M. Kennedy. Democratic National Committee Chairman Ronald H. Brown is a friend and business partner. Yet despite the company he keeps, Bertram M. Lee has remained relatively obscure. "I have no interest in promoting Bert Lee," he says. "I don't need that."

Until now. On July 10, Lee, with Chicago developer Peter C. B. Bynoe, announced the purchase of the National Basketball Assn.'s Denver Nuggets for \$65 million—becoming the first black owners of a big-time professional sports franchise.

The sale is a giant step for the NBA, historically more progressive than other pro sports in moving minorities into the front office. League sources say attracting a black owner was a priority for Commissioner David J. Stern, who first hooked Lee and Bynoe up with Nuggets owner Sidney Shlenker on May 27.

PAID OFF. The deal catapults Lee into national view after a behind-the-scenes career. He served in 1984 and 1988 as co-chairman of Jackson's Presidential finance committee. And Lee has raised money for New York Democratic mayoral candidate David N. Dinkins and Los Angeles Mayor Tom Bradley, another Democrat. Closer to home, Lee is a driving force behind a major real estate development in Boston's mostly black Roxbury neighborhood. "If I want to get

something done in the black community, I need to get him in there," says Joseph Warren, an advisor to Governor Michael S. Dukakis.

That type of clout has been long in the making. Just out of college, Lee organized community programs for Chicago and a manpower training center in Boston, then managed a metal-fabrication plant for EG&G Inc. In 1973, he took over a small printing company, which went bankrupt two years later. Today, his BML Associates owns two radio stations and a pay-telephone operation. The contacts haven't hurt: Brown chipped in to help BML buy Washington radio station WKYS for \$50 million in 1987.

Lee's biggest coup, though, was his investment in Boston TV station WNEV. The effort started in 1970, when he organized a group of prominent blacks and local academics to challenge RKO General's fitness to hold a broadcast license and buy the station. The group finally succeeded in 1982, when the Federal Communications Commission revoked RKO's license and awarded it to Lee's outfit, which by then had merged with another

group headed by grocery heir David Mugar. The combined company finally bought the station in 1982 for \$22 million. At the time, estimates of its worth were seven times higher.

Lee tried to implement an idealist vision of a black-run station geared to community programming. But "the first decision we made was to spend millions on reruns of *The Love Boat* and *Fantasy Island*," says one investor. The deal paid off for Lee, who as head of the investment group received stock in WNEV. When he sold out to Mugar, Lee parlayed an original investment reported to be \$10,000 into more than \$10 million.

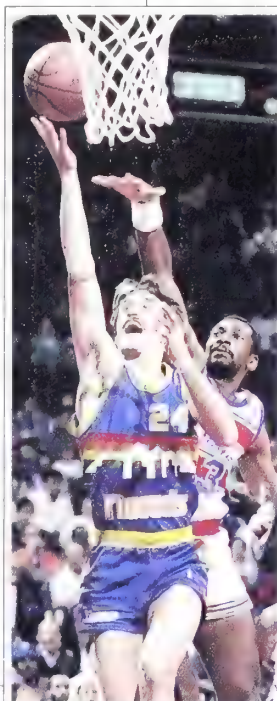
TOP DOLLAR. Lee won't make such a killing on the Nuggets. Says new club president and minority owner David W. Checketts: "We can probably double the value of this franchise in five years. But Lee and Bynoe are paying top dollar for an operation that, though barely profitable, has few glaring weaknesses and thus can't generate a quick return from a makeover."

Shlenker, who paid \$20 million for the club four years ago, has doubled TV revenues and signed 40 corporate sponsors. He invested \$13.5 million to improve Denver's McNichols arena, the team's home court, and raised ticket prices. Attendance rose 6.6% last year, to 13,541 per home game. Shlenker achieved that in a small market, with players among the league's oldest. "The Nuggets are one of the best-managed teams in professional basketball," says Mat A. Tinley, executive vice-president of Prime Network, which has TV rights to six NBA teams. "To make a decent return on \$65 million, you have to bet on the continued growth of the NBA."

The new owners plan a similar strategy: Sell more season tickets, attract more sponsors and sell more souvenirs. Checketts says the franchise players he plans to bring in will deliver a championship by 1994.

Lee isn't so brash. His group will borrow about \$30 million to finance the deal, and he talks of "operating efficiently and effectively." But he also says "I recognize the historical significance of this event." Friends say advancing the role of blacks in sports is important to Lee, providing a motivation similar to that behind his WNEV deal. This time, the stage is a lot more visible.

By Keith H. Hammond in Boston and William C. Symonds in Denver, with Brian Bremner in Chicago



\$65 MILLION TEAM

EDITED BY HARRIS COLLINGWOOD

SOYBEAN LOVE, ITALIAN STYLE

The Chicago Board of Trade's soybean pit was jolted the week of July 10 by a sudden runup in holdings of futures contracts calling for early delivery of soybeans. By July 11, overnight holdings of soybeans had skyrocketed to 2,280 contracts, or more than 10 million bushels, up from 305 contracts at the same time last year.

In an unusual emergency declaration, the CBOT late on July 11 ordered traders to reduce their holdings of July soybean contracts. On July 12, bean prices dropped 6%, to \$3.86 per bushel. The CBOT's order, say soybean traders, was directed against Gruppo Ferruzzi, a leading Italian grain trader that's part of Paul Gardini's financial empire. Ferruzzi denied any attempt to corner the market, saying it had been accumulating July contracts only to shore up its supplies against drought-related shortages.

SHOPPING NETWORKS: NOW IT'S WAR

Home Shopping Network, the top dog in cable TV home shopping, has long dominated the business—but with two hihuahuas nipping at its heels. Now, the competition has a lot more teeth. QVC Network, the No. 3 shopping network, has agreed to buy No. 2 TVN for \$423 million. They will reach 37 million households, up from HSN's 60 million.

SEC ACTION RESUMES IN THE BW CASE

On July 11, the Securities & Exchange Commission filed suit against five people who from 1986 to 1988 allegedly engaged in illegal insider trading based on advance information about stocks named in BUSINESS WEEK's "Inside Wall Street" column. The

prime defendant is former Merrill Lynch broker William Dillon, who bought prepublication copies of BW from employees at R.R. Donnelly's printing plant in Old Saybrook, Conn., where some BW copies are printed. Dillon pleaded guilty to two felony counts last year and was sentenced to six months. The SEC says Dillon tipped his mother, two clients, a colleague, and a bank officer, who together made gross profits (excluding losses) of \$301,963.

Dillon's friend Benjamin Libera was named as an accomplice. Libera and others allegedly tipped by him produced \$340,354 in gross profits, says the SEC. Dillon's lawyer says his client will settle the complaint with the agency. The other defendants couldn't be reached for comment.

MARRIOTT SELLS ITS AIRLINE CATERER

► Marriott has jettisoned one of its oldest divisions, In-Flite Services, the leading provider of catering services to airlines. The company sold the unit, to be renamed Caterair International, to its management and a group of Washington investors for an estimated \$600 million. Merrill Lynch will help finance the deal with about \$250 million in junk bonds, and a consortium of banks will lend an additional \$250 million. Marriott will

ONLY IN CALIFORNIA: A LANDMARK CAR WASH?

In Los Angeles, where the automobile holds a special place in the hearts of the citizenry, the fight is on to award landmark status to Pat Galati's car wash and all-night gas station. Done up in the parabolas and trapezoids that epitomize 1950s architecture, Galati's operation sits on a corner where a filling station has operated since the 1920s.

Residents want to save it from being bulldozed to make way for a shopping mall. In true movieland fashion, the fight has brought out the stars: Among the 7,000 signers of the preservation petition are Telly Savalas, Erik Estrada, and Ralph Bellamy. A local folksinger has written a protest song, residents have raised money by selling T-shirts, and disk jockeys are rallying support. Developer Ira Smedra argues that his mall will improve the neighborhood. But when Los Angeles' Cultural Heritage Commission meets on July 19, it will probably vote to give America its first landmark car wash.



hold about \$40 million in debt.

Founded in 1937, In-Flite serves 150 airlines from 45 U.S. and 38 overseas locations. It contributed \$800 million to Marriott's \$7.4 billion in sales last year. In October, it will begin managing all Aeroflot kitchens in Moscow.

DISNEY SETTLES A SHAREHOLDERS' SUIT

► The last vestige of the notorious 1984 takeover fight for Walt Disney disappeared when dissident shareholders agreed to settle a pair of five-year-old greenmail suits against the company, its di-

rectors, and raider Saul Steinberg. Disney had paid Steinberg \$325.4 million in June, 1984, for his 11.1% stake in the company. The shareholders objected, contending that the deal was made to entrench management and that it cut Disney's stock price.

Five days after trial began in a Los Angeles state courtroom, Disney and Steinberg's Reliance Group Holdings agreed to pay the shareholders \$45 million. Reliance will pay \$20.8 million of the award and will charge it against second-quarter earnings.

THESE CAMPAIGN GIFTS AIN'T CHICKEN FEED

► Texas chicken processor Lonnie Pilgrim added a surprise to the information packages he passed out in the Texas state Senate chambers on July 5. Pilgrim handed blank checks for \$10,000 to 10 Senators (of 31) who were the swing votes on workers' compensation reform. Pilgrim's beef: His compensation rates are four times higher than rivals' in Arkansas. The gifts apparently broke no law, but only 2 of the 10 Senators said they would cash the checks. And the Senate torpedoed reform anyway.

HEY...IT'S GREAT TO BE IN POLAND! WHO'S IN CHARGE HERE?





Sometimes what it takes to put a life back together is a hammer and nails.

In Lima, Ohio, a woman drives home a nail. And drives home a new skill. Another tears down an old wall. And tears down old defeatism.

These women are rehabilitating a neighborhood. And at the same time, they are rehabilitating themselves. They are inmates at the nearby Marysville prison who are contributing to a neighborhood revitalization project funded, in part, by General Dynamics.

They learn to replace drywall, fixtures, cabinetry, stairways, porches, siding, roofing, and more.

For the community, the result is very high quality, affordable family housing. For prisoners turned productive, the result is new confidence, new job skills, and a new chance at life.

GENERAL DYNAMICS
A Strong Company For A Strong Country

TAKEOVERS: CONGRESS COMES OUT SWINGING A WET NOODLE

After months of dire warnings about how it would take a bite out of the hide of debt-driven corporate takeovers and buyouts, the House Ways & Means Committee is coming away with little more than a mouthful of fur.

Treasury Secretary Nicholas F. Brady talked tough about crackdown on takeovers earlier this year, but he never offered any suggestions as to how to do it. And without the administration on board, Ways & Means was not willing to pose major restrictions on high-yield debt as the committee jumbles together a \$5.3 billion tax bill. Instead, the panel did little more than curb tax breaks for a handful of highly specialized junk bonds. Although they remain a relatively tiny piece of the financing packages that back LBOs, these issues have been multiplying quickly, leading wags to dub them "bunny" bonds.

On July 12, the committee followed the lead of Chairman Dan Rostenkowski (D-Ill.), and took some tax advantages away from this paper. In his draft tax bill, he suggested eliminating the interest deduction for high-yield zero coupon bonds and payment-in-kind bonds, which pay off in new paper rather than cash.

ICY TARGET. Curbing tax breaks for this paper won't kill any deals, but it will make buyouts more expensive. Robert Willens, senior vice-president at Shearson Lehman Hutton Inc., estimates the bill will raise the cost of an LBO by about 5%. Wall Street and many corporate lobbyists, who feared much worse, aren't likely to make too big a fuss over that provision. They are much more concerned about another Rostenkowski plan that would end the deductibility of dividends paid to employee stock ownership plans.

Ways & Means' caution with LBOs doesn't mean the panel won't return to the issue of corporate debt. A new round of big acquisitions, including possible megadeals involving Time Inc. and BAT Industries (page 18), is bound to attract Congress' attention. And in the Hill's insatiable drive for new revenue to help reduce the federal budget deficit, the corporate interest deduction remains a juicy target.

But not for now. Ways & Means has satisfied itself by

taking a few tiny steps and passing the buck back to Brady. Rostenkowski wants him to pave the way for new restrictions by refining the distinctions between debt and equity—something Treasury has been trying to do for 20 years.

Some junk-bond issuers worry less about the immediate impact of Ways & Means' work than about the restrictions on the deductibility of interest on other debt that it portends for the future. Greg Scott, lobbyist for the Alliance for Capital Access, says the real danger lurks in the committee's attempt to distinguish between junk bonds and investment-grade debt. "We're very concerned about the precedent," he says. Or, you might say, the bunny's nose sticking under the tent.

By Howard Gleckman in Washington

QUAYLE'S SPACE PROGRAM SEEMS BOUND FOR OBLIVION

The President may be getting more than he bargained for when he asked Vice-President Dan Quayle and his Space Council to draft a plan for the future of the U.S. space program. Despite the budget crunch, the council hopes Bush will back an ambitious return to manned exploration of the solar system. Quayle's ideal scenario has the President announcing his support for the manned-probes scheme on July 20 at ceremonies marking the 20th anniversary of the first landing on the moon.

In its most grandiose form, the Space Council's plan calls for launching a manned mission to Mars from a U.S. base on the moon. Just establishing the lunar colony would cost an estimated \$100 billion.

Reviving the glory of manned trips beyond earth's orbit for the first time since 1972 may be attractive to the Bush Administration. But the money just isn't there, and the President is likely to end up shooting down, or drastically scaling back, Quayle's recommendation.

By Dave Griffiths and Seth Payne

CAPITAL WRAPUP

HOUSING

The relationship between Housing & Urban Development Secretary Jack F. Kemp and Congress, warm until now, may be heading for a chill.

The breakup could come over the National Affordable Housing Act, a popular measure sponsored by Senators Alan Cranston (D-Calif.) and Alphonse M. D'Amato (R-N.Y.). Kemp, who wants to rebuild housing policy from the ground up, has said that there is much in the bill he could support. But an adviser says Kemp thinks the measure is "full of mine fields" and puts too much stock in the sort of housing subsidies implicated in the

HUD scandals. Kemp will testify before the Senate Committee on Banking, Housing & Urban Affairs on July 18.

CONGRESS

Democrats, already feeling a bit uneasy about maintaining their 55-45 margin in the Senate in the 1990 elections, are having trouble recruiting challengers. Only one Democratic House member, Minnesota's Gerry Sikorski, has expressed willingness to take on a GOP incumbent. He'll run against Senator Rudy Boschwitz. But in Colorado, Democratic Representatives Ben Nighthorse Campbell and David E. Skaggs won't run for the seat left open by the retirement of GOP Sen-

ator William L. Armstrong. The Democrats, who regained the Senate in 1986 after six years of GOP control, have 16 seats at stake to the Republicans' 17.

READ MY LIPS

The House Ways & Means Committee is giving itself a birthday bash on July 24, and the guest of honor will be a onetime member of the panel who has gone on to bigger things—George Bush. The private dinner in the newly redecorated Ways & Means hearing room may provide an excellent opportunity for Bush and Chairman Dan Rostenkowski (D-Ill.) to have a rare informal chat about Rosty's favorite subject—the need for new taxes.



JOINT VENTURES

WHEN U.S. JOINT VENTURES WITH JAPAN GO SOUR

Squabbling over quality and goals undermines many U.S.-Japan combinations in auto parts

Charles Peters wouldn't give up. Even though Honda Motor Co. in Japan was a major customer for his brake tubing, the senior vice-president at ITT Automotive couldn't win a contract from Honda in Marysville, Ohio, for the same part. So Peters set up a 50-50 joint venture in 1985 with auto parts maker Sanoh Industrial Co. to supply Honda in the U.S. No sooner had production started than costs skyrocketed for some of the parts the venture imported from Japan. Worse, partner Sanoh insisted on continuing the Japanese practice of letting the biggest cus-

tomers—in this case Honda—set prices while Sanoh footed the bill for a costly factory retooling. Recalls Peters: "It got to the point that the only way we were going to make money was to strike oil underneath the plant."

With the business going downhill fast and nerves beginning to fray, the Japanese agreed to hand over management control to ITT Automotive. Honda, loath to lose a proven supplier, let ITT Automotive set the prices and agreed to pay for each retooling. But even now, with \$20 million in annual sales, the Findlay (Ohio) plant still doesn't make a dime.

ITT Automotive's tale is a familiar one in auto-making centers across the nation. Joint ventures were supposed to be a quick and cheaper way for U.S. part suppliers to get in on the Japanese gravy train—the \$6.6 billion investment in auto output. But it's not working that way. Of the 126 U.S. auto suppliers that entered into joint ventures to supply Honda, Nissan, and Mazda—as well as General Motors and Ford Motor—almost all are losing money. The number of new joint ventures is falling (chart). And Japanese suppliers hold about 20% of the \$40 billion U.S. auto-parts market.

Underlying the failures are problems of divergent management styles, inflated expectations, disputes over quality and labor practices, and in some cases, bad luck. More important, the two sides often entered into such ventures with very different agendas. American suppliers wanted access to the Japanese auto makers. But Japanese suppliers were looking further ahead, using their partners to gain footholds in the U.S. market. Now, as many of the ventures prove

unworkable, the Japanese partners are beginning to strike out on their own.

It is the well-known story of the Japanese slowly and deliberately gaining ground in the U.S.—in consumer electronics, autos, and now auto parts. “Many Americans have been naive,” says Carl S. Landesman, a partner at Chicago management consultants A.T. Kearney. “In their efforts just to win new business opportunities, they have thrown a good opportunity to learn Japanese techniques and practices.”

What's more, U.S. suppliers are facing declining auto-production levels in the U.S. For those that had

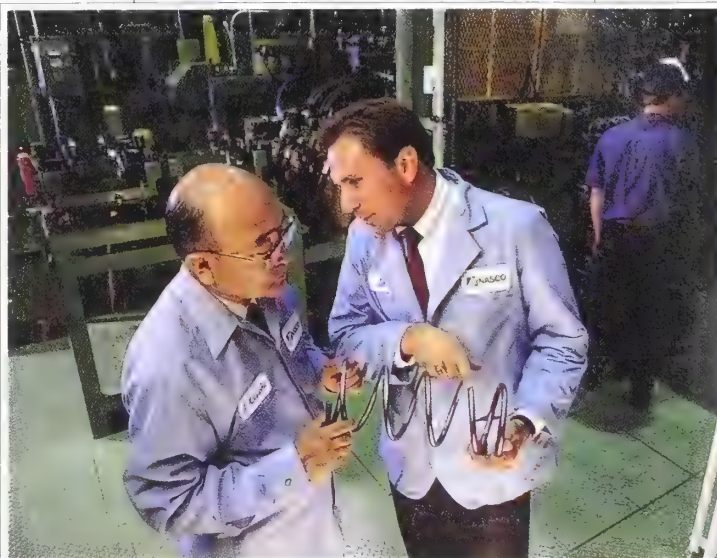
high hopes of increasing their business, the souring ventures are likely to accelerate a shakeout already in progress in the auto-parts industry. According to the Automotive Parts & Accessories Assn., there are 2,225 parts suppliers, about 90 fewer than a decade ago. The odds are that more and more of the survivors will be Japanese.

SLUGGISH PERFORMANCE. It wasn't supposed to happen this way. Difficult as joint ventures can be, those in auto parts were supposed to help smooth over growing trade friction as American and Japanese managers shared experiences as well as lucrative markets. Instead, domestic companies, from brake-tube producers to steelmakers, are finding themselves disillusioned with their ventures' sluggish performance and low profits.

James Carroll, chief executive of partsmaker Wynn's International Inc., sunk \$3 million in a joint venture with Diesel Kiki Co. to supply air conditioners to Mazda Motor Corp. When the dollar fell against the yen and costs rose steeply, the Japanese insisted the company pay with overseas suppliers, saying U.S. aluminum was not good enough. When the Japanese suggested that the joint venture cut prices to gain even more of Mazda's business. In February, Wynn's sold back its stake to Diesel Kiki, and Carroll found himself buying

parts from his former partner. Even more painful, Diesel Kiki's newly modernized plant in Decatur, Ill., is winning over one of Wynn's major customers, Isuzu Motors Ltd.

Another supplier, Holley Automotive Div. of Colt Industries, a fuel systems maker, sells to General Motors, Ford, and Chrysler. Vice-President Edward P. Rowady would like to break in with Japanese auto makers too, but says their insistence on “long-term partnerships”



NASCO'S MATSUOKA (LEFT): A JOINT VENTURE IS “AN EXCHANGE OF IDEAS”

makes it difficult without a Japanese intermediary. Joint ventures, he says, boil down to “How can you help us take over your market?”

Mixing Japanese production methods and American work styles has been difficult at many ventures. Workers grumble about daily calisthenics and the boring dedication ceremonies Japanese seem to love. And managers can't understand Japanese frugality: At one plant, the size of memo paper caused a 40-minute debate.

For the Japanese, working with Americans has been no picnic, either. Japanese executives complain that they must hire up to one fifth more employees at a U.S. plant than a similar one in Japan. “In Japan, we talk about just-in-time delivery in terms of minutes,” says Norio Kikuchi, general manager of Nova Steel Processing, a joint venture between Armco Inc. and C. Itoh & Co. to process steel for Armco. “Here in the U.S., the time reference is in days.”

Quality is another trouble spot. Asahi Glass Co. has a partnership with PPG Industries Inc. to supply windshields to

Honda and other carmakers. But Asahi officials complain privately that the rejection rate of PPG glass is so high that they are now considering building their own glass plant in the U.S. PPG declined comment.

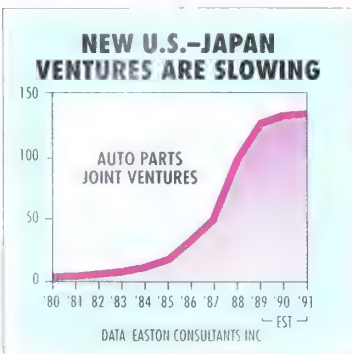
Some Americans have come to Japanese joint ventures with their eyes open. TRW Inc., for example, has three joint ventures with big Japanese auto suppliers to produce seat belts, engine valves, and steering gears for sale to the transplants. TRW has clauses in its contracts barring the Japanese from poaching on its domestic auto businesses. Chardon Rubber Co., a smaller supplier of weather stripping for doors and trunks, and its partner, Kinugawa Rubber Industrial Co., don't compete in the same products.

In one case, the vast difference between Japanese and American styles was turned into an advantage. NASCO, a joint venture in Bowling Green, Ky., to manufacture coiled suspension springs, began making bilingual sales pitches, appealing to American buyers as well as top Japanese management. The strategy brought in a badly needed new customer—NUMMI, the Toyota-General Motors venture—after a setback in 1988, when orders from its sole customer, Nissan Motor Co., fell off. “The joint venture is more than just money. It's an exchange of ideas,” says Tsuneharu Matsuoka, NASCO's president.

Whatever the ups and downs of joint ventures, the Japanese are in the U.S. for the long haul. The auto-parts market is becoming more and more cutthroat, especially now that American suppliers have awakened to the quality issue, and Detroit is giving long-term contracts to fewer suppliers. But the Japanese are not known for quitting when things get bad, even if it means sustaining losses for years. “We will have to readjust our forecasts,” says an executive of a Japanese auto-parts supplier after losing a bid for GM's business. “But it does not affect our intentions to win market share.”

If Americans had understood Japanese strategy better from the beginning, there might have been something in joint ventures for both sides.

By Stephen Phillips in Cleveland



JAPAN INC. HANGS OUT A HELP-WANTED SIGN

It faces a growing labor shortage in services and manufacturing

By custom, Japanese companies are supposed to wait until August before they start wooing next spring's crop of college graduates. But Keio University senior Hideaki Shirashoji knows the recruiting season really begins way before that. He was receiving letters from banks and securities firms at the rate of 20 a day by April, and the 22-year-old business administration major figured that getting the job he wanted would be a cinch. It was. In early July, he got a lucrative offer from a blue-chip company.

With business booming, Japanese companies are on a hiring binge. For Shirashoji and thousands of other Japanese college seniors, it's a seller's market. Skilled workers are also much in demand. The Labor Ministry estimates that the economy is short 2 million workers in fields ranging from construction to sales.

GO-GO IMAGE. Behind the good news for job seekers is a serious labor shortage for Japanese business. In May, the ratio of job offers to job hunters climbed to 1.3, the highest since 1975. As companies scramble to fill openings, labor costs are jumping, and manufacturers are pumping up spending on automation. Pressure is also building to use more foreign labor. Perhaps more serious, changing job preferences could eventually endanger the competitive position of Japanese manufacturers. They are already having to compete fiercely with financial institutions to hire top engineers.

Engineering graduates, who excel in math, are making a beeline for the fatter salaries and go-go image of banking and finance. Last year, only one-third of Tokyo science and technology graduates signed up with manufacturing companies, compared with half in 1986. "We're finding it extremely difficult to hire electrical and computer-software engineers," says an official at Victor Company of Japan Ltd., a major consumer electronics concern.

If wages continue to rise, they could start to fan inflation fears. The spring *shunto*, the national wage negotiations for employees of big companies, resulted in a modest increase of 5.2%. But fat summer bonuses and steep rises in part-time pay in many sectors are sending up the overall cost of labor. With productiv-

ity gains from capital investment slowing, unit-labor costs will climb 1.5% this year, after declining 4.7% in 1988 and 3.4% in 1987, according to UBS Phillips & Drew International Ltd. "The rise in wages could cause firms to raise prices considerably," says Eric Rasmussen, an economist at Jardine Fleming (Securities) Ltd.

The labor crunch probably won't ease up much, even if Japan's heated economy starts to cool. The growth of services, which use more labor than manu-

into the country on tourist and student visas to take the menial jobs that Japanese no longer want. Experts estimate the foreign work force at 150,000 to 300,000 people, with the largest concentration in the construction industry, which young Japanese shun.

To cope in the short term, Japanese companies will keep pouring money into equipment and technology that enhance productivity. Manufacturers are also spending heavily on employee benefits and splashy advertising to woo young people away from service companies. Nippon Steel Corp., for example, is using ads featuring American movie stars such as Sigourney Weaver, of *Working Girl* fame, in an effort to add glamour to its smokestack image. Toyota Motor Corp. plans to lavish more than \$70 million over 10 years on modernizing its spartan employee housing. In the future, its bachelor dormitories will offer snazzy



TOKYO WORKERS: RECRUITING WOMEN FOR HIGHER-PAID JOBS WOULD HELP

facturing, will continue to raise the demand for workers. Yet the number of Japanese aged 15 to 64 will start to decline after 1995. That will make it tough for Tokyo to follow through on its stated policy of trimming work hours to boost leisure time and consumption.

ALIEN UNDERCLASS? The labor shortage has led some industrialists and intellectuals to urge Japan to admit more foreign workers. But the Labor Ministry and union officials fear that allowing in more unskilled workers could drive wages down and leave Japan with a permanent alien underclass. Foreigners would also threaten Japan's cherished racial homogeneity.

But unskilled foreigners, mainly from Pakistan, the Philippines, and other Asian countries, are already streaming

rooms, better food, and fitness clubs. Other companies are running ads on TV and in comic books, a popular medium for young adults, portraying themselves as exciting places to work.

Japanese companies could alleviate some of the labor shortage by recruiting more women for higher-status jobs. While women are moving into the engineering ranks at a brisk pace, companies still overwhelmingly favor men for mainstream management. Sanwa Bank Ltd. has earmarked just 30 of 500 graduate slots for women. That doesn't surprise Keio University grad Shirashoji. While companies pursue him for interviews, his female peers, he says, are waiting by the telephone.

By Amy Barron, with Sagaka Shinoda in Tokyo

WILL CALIFORNIA'S ANTI-CHINA SYNDROME SPREAD?

If its lawmakers force pension funds to divest, others may follow

The backlash overseas against China's hardliners is going grass roots. California legislators are drawing up sanctions against Beijing for its crackdown on prodemocracy forces. Mirroring the 1986 act barring state pension funds from investing in companies doing business in South Africa, the legislators are pressing the funds to divest their shares in companies involved in China.

If the initiatives succeed, California's pension-fund managers could be forced to sell their stock in BankAmerica, Du Pont, General Electric, General Motors, Hewlett-Packard, and some 200 other companies. The funds might have to divest even more stock after 1997, when Hong Kong reverts to Chinese rule. No other states appear to be following suit—yet. But because California is a leader in shareholder activism, its China campaign could spark similar measures nationwide.

INVESTMENT WRENCH. Targeted in Sacramento are the state's two largest pension funds: the Public Employees' Retirement System and the State Teachers' Retirement System, which together manage \$81 billion. PERS, with \$53 billion in assets, is the country's largest pension fund.

One China bill, introduced by Republican Assemblywoman Carol Bentley with eight co-authors, would require outright divestment by 1994. Another, to be introduced soon by Democratic Assemblyman Tom Hayden, wouldn't require divestment unless China's human-rights picture worsens. But it would bar the pension funds from making new investments in companies or banks doing business with China and also would prohibit new deposits of state money in banks that lend to the Chinese. "The days of a blank check are over," says Hayden, a social activist since the '60s. "The issue of responsible investment has been around a long time. Now, the pressure will come to China."

At the very least, the legislature may pass a nonbinding resolution, proposed by Democratic Assemblyman Dave El-



HAYDEN: SENDING A MESSAGE

der, calling for the funds to "seriously consider" divestment. But state pension managers regard any new international investment restrictions as a threat. PERS is unloading its shares in about 140 companies with South African links, and a simultaneous China divestment order "could cause serious losses of opportunity," observes DeWitt Bowman, the fund's chief investment officer. "It's playing hob with our investment program."

Not all the backers of South Africa divestment think the China effort will prevail. "It's not embedded in people's consciousness the way the anti-apartheid movement was," says Larry Agran, mayor of Irvine and head of a group that seeks to involve municipal officials in international affairs. But others see California's China proposals as a harbinger. Unlike South Africa divestment, which most Republicans opposed, the suggested China sanctions have received bipartisan support. Even if it only sends a tough message to the California pension funds, the legislature is already giving money managers across the U.S. something new to worry about.

By Maria Shao in San Francisco

MEXICO

A SMALL SIGH OF RELIEF

The Brady deal on Mexico's debt will help a little—but not enough

As the Group of Seven industrialized nations prepared to take up Third World debt and other matters at their July 14-16 economic summit in Paris, bankers and diplomats in New York were working feverishly to wrap up a deal to relieve Mexico of up to 18% of its \$107 billion in foreign loans. The likely agreement will be the first test of Treasury Secretary Nicholas F. Brady's

new strategy for easing the developing world's debt.

But if Mexico proves to be the trendsetter, the Brady Plan is off to a slow start. The proposed Mexico deal appears to set forth one clear principle: Debtors will be unable to claim relief until they put economic reform plans into action. Thus, Venezuela and the Philippines will probably be able to follow closely behind Mexico in renegotiating their combined \$65 billion foreign debt.

SHALLOW POCKETS. But relief will continue to elude two of the developing world's biggest debtors, Argentina and Brazil, which together owe some \$180 billion, until their political troubles ease. And unless the G-7, World Bank, International Monetary Fund, and others add to the \$24 billion they have set aside to help the Brady Plan, bankers and analysts warn, any new debt deals will provide only modest relief at best. "Right now, there isn't too much money available to finance these [debt] schemes," says Javier Murcio, a Latin America expert at DRI/McGraw-Hill. "There's a need for more."

Some new assistance does appear to be on the way from Japan. Prime Minister Sosuke Uno says the Japanese will

offer as much as \$43 billion in foreign aid by 1992. How much of that is an increase over previously announced plans is not clear, but Uno pledges to add \$5.5 billion to the \$4.5 billion in cut-rate loans Japan earlier

agreed to make to facilitate Brady's relief efforts. Uno also promises \$2.3 billion in loans for environmental cleanups. But even efforts such as these won't put more than a small dent in Latin America's \$420 billion foreign debt, more than half of which is owed to commercial banks and other private lenders.

The proposed package for Mexico focuses on easing the country's \$54 billion bank-loan burden through write-offs, cuts in interest rates, and swaps of loans for government bonds. The deal could reduce Mexico's cash outflow by some \$3 billion a year. This prospect has pushed up the value of the country's debt (chart). But analysts believe that the proposed reduction, some 25% below what President Carlos Salinas de Gortari had sought, isn't enough to give Mexico's sputtering economy a much-needed lift. It may take a few more G-7 summits to get the Brady Plan out of first gear.

By William Glasgall in New York, with Stephen Baker in Mexico City



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THATCHER: CAN AN OLD TORY LEARN NEW TRICKS?

P rime Minister Margaret Thatcher is facing a midsummer of discontent. Although Parliament is recessing soon, Thatcher's reenergized opponents in the Labor party are going after her for her management of the economy and her controversial plans to revamp the national health system and sell off the water and electricity industries. To shore up support, Thatcher is expected to shuffle her Cabinet. Two beleaguered ministers in high-profile departments—Paul Channon at Transport and Nicholas Ridley at Environment—together with Party Chairman Peter Brooke, may be replaced.

The thrashing Thatcher's Conservatives suffered in June's European Parliament elections highlighted her problems. That loss, according to key Labor Member of Parliament Bryan Gould, shattered the myth that the Tories cannot be beaten." At the same time, the Labor Party "has become credible again," says Gordon Heald, managing director of the Gallup Poll. Indeed, Labor now leads the Tories by 10 points, according to the latest Gallup poll. Much credit should go to Labor leader Neil Kinnock, who is steering the party away from such radical policies as sweeping renationalizations, punitive income taxes, and unilateral nuclear disarmament.

SOLE SUNDAYS. Restoring Tory health, when Labor is showing true signs of unity and is on the attack, presents a challenge of the sort the Prime Minister hasn't faced for years. Members of her own party, chastened by the European election setbacks, are urging her to change her style—no easy feat for a politician whose dogmatic, confrontational approach has been the very secret of her success during 10 years in office. "The attitudes and language of politics appropriate to 1979 are not appropriate to 1989," complains John Biffen, a veteran Tory MP and former leader of the House of Commons.

The Cabinet reshuffle will be part of Thatcher's strategy to deal with the disarray in her party. Her counselors are also likely to urge her to steer clear of major new initiatives when

Parliament resumes after the summer recess. The Tories may even delay their widely criticized plans to overhaul the popular National Health Service in order to give health care professionals and the government time to hash out a reasonable compromise that might include hefty new spending. A chastened Thatcher is also moving away from her crusade against some vested interests. She agreed on July 10 to back down on an effort to bring more competition to the brewing industry by forcing the brewers to sell off most of their pubs. She is also

likely to tone down her sweeping reforms of the legal industry in response to the opposition of powerful barristers. And she is likely to scrap her plans to legalize Sunday shopping in the face of opposition from religious groups and labor.

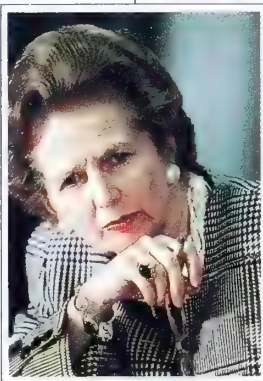
TORY NIGHTMARES. Some problems can't be so easily brushed aside. For instance, her remedies for inflation, which has risen to 8.3%, are showing only modest signs of paying off. The unions' bid to keep wage hikes, now averaging 9%, ahead of inflation has led to a rash of strikes among bus, rail, and municipal workers. The Tories have so far been unable to pull off their usual tactic of turning the strikes into a weapon against Labor.

The upcoming privatizations of the water and electricity industries present additional problems.

Both efforts face consumer and investor resistance. And more troubling for the government, both are likely to need huge infusions of funds. The water system will have to be upgraded in order to meet European Community quality standards. British nuclear plants will require extensive spending to support higher capital and operating costs. One nightmare that some bureaucrats foresee is water and electric bills soaring just as the next election approaches.

Of course, Thatcher's ace is not having to call that election until June of 1992. Her hope is that time, along with her acknowledged political acumen and, possibly, a softer image, will allow her to regain the upper hand.

By Richard A. Melcher in London



CHASTENED CRUSADER

GLOBAL WRAPUP

ITALY

The appointment of veteran Christian Democrat Giulio Andreotti as acting Prime Minister is likely to bring only temporary calm to Italy, which has been without a government since May 19. Andreotti must form a delicately balanced coalition. Among the thorny decisions awaiting it: nominations for the top jobs at two of Italy's biggest state businesses, the industrial conglomerate IRI and the energy group ENI, as well as a host of other public-sector companies. Both IRI Chairman Romano Prodi and ENI boss Franco Reviglio are expected to lose their posts. Although these managers

are widely credited with turning their companies around, they have made enemies by not being responsive to political pressure.

SOUTH KOREA

South Korea suddenly is poised to establish diplomatic links with the Soviet Union in a move that may lead to a novel form of triangular trade involving India. After a recent visit to Moscow by opposition leader Kim Young-Sam, the South Korean government predicted that the two countries would establish official ties in the "near future."

The Koreans are dangling the prospect of increased trade and even in-

vestment in front of the Soviets in hopes that Moscow will agree to the opening of official relations. Unlike the Japanese, who want to be paid in hard currency, the Koreans may be willing to accept a combination of raw materials and Soviet rubles in exchange for Korean manufactured products. According to one plan, Korean businesses would then tender the rubles for goods from India, which needs Soviet currency for weapons purchases.

Seoul believes that Moscow will now lean on North Korea to engage in serious talks with the South. With Seoul's relations with Pyongyang's other backer, China, also improving, the threat from the North appears much reduced.

LORD NELSON AND MILSTAR

Trafalgar, 1805, the battle that was to lead to the eventual undoing of Napoleon, was won because Admiral Horatio Nelson had a secret weapon: signal flags.

The technique of communicating over long distances by coded flags had only recently been invented by the Royal Navy. It revolutionized naval warfare.

The system enabled the British ships to cover vast expanses of ocean, looking for the enemy, while remaining in close contact with the fleet commander. It also allowed tactical flexibility once battle had been joined. Other navies were bound by rigid battle plans.

The Battle of Trafalgar, by Clarkson Stanfield, 1836, The Institute of Directors, London



ed upon in face-to-face councils long before the broadside. They were confounded by the British their talking flags.

The result of Trafalgar, and in large part this communications system, was that Britain enjoyed disputed rule of the seas and over a century of peace; a *Pax Britannica*.

In modern warfare, command, control, and communication are as decisive factors as they were two centuries ago and even more complex. History is peppered with anecdotes of communication breakdowns leading to fiasco. It has been called the fog of war.

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WHAT B-SCHOOL DOESN'T TEACH YOU ABOUT STARTUPS

New MBAs are finding that a diploma does not an entrepreneur make

In the halls of business school academia, the hot word is "startup." This year, 75% of Harvard's second-year MBA class signed up for courses on entrepreneurship. So did their counterparts on the other coast—Stanford. Yet after the final exam, after the diplomas, most MBA grads make tracks for jobs as consultants, investment bankers, strategic planners, and product managers.

There are good reasons for the incongruity. The first is money: Two years of graduate school cost as much as \$60,000. A stint in Wall Street pinstripes may not satisfy

the entrepreneurial urge, but it's a way to pay off debt.

Most MBAs also lack much of the raw material it takes to run a small business: "Being bright-eyed and bushy-tailed isn't necessarily a barometer of success," says William A. Sahlman, who teaches entrepreneurial finance at Harvard. "If people succeed, it's because they know an industry cold and perceive some need or service that no one else has seen." That assessment rings true, judging by the experiences of a few young MBAs who were bitten by the entrepreneurial bug.

BUILDING A BREWERY IS NO SMALL BEER

At the start, it was an appealing new business idea. And it was the best way to get out of spring classes. In his second year at Harvard business school, Richard A. Doyle proposed a field study project that examined the prospects for a new beer company. He executed his research dutifully in local taverns and dance clubs. With a classmate, George B. Ligeti, he ventured to the Pacific Northwest to explore the mysteries of that region's successful small breweries. The study got a top grade, and Doyle and Ligeti left school in 1986 with the germ of a business: Mass. Bay Brewing Co.

Three years later, the brewery is selling \$125,000 worth of Harpoon Ale a month in five northeastern states—scrapping for local bragging rights with Boston Beer Co., a larger outfit started four years ago by James Koch (Harvard MBA, '78). The brewery, a cramped, bustling affair on South Boston's waterfront, has hit capacity.

This startup has had its trials. True, money came relatively easily: \$300,000 from banks and \$600,000 from friends, family, and classmates. Then a deal to lease manufacturing space stalled in the state's red tape, forcing the company to postpone its first brew for several months. While their friends worked 12-hour days, these MBAs sat and waited. "We kept ourselves stocked with macaroni and cheese, watched a lot of *Star Trek*, and worked out a lot," Doyle says.

Then, suddenly, there was no time at



MASS. BAY BREWING FOUNDERS LIGETI, KENARY, AND DOYLE HOIST THEIR HARPOON ALE

all. Almost as soon as the brewery found a home, the manufacturing problems began. Doyle, Ligeti, and Daniel Kenary, a college friend of Doyle's and a University of Chicago MBA, found themselves working 16 hours a day almost every day. It took a year to work out the glitches but longer to resolve problems with indifferent distributors.

Even now, the trio works 60 hours or more a week—often toiling on the bottling line alongside their employees. Doyle spends 25 hours a week on the road, shaking hands and taking orders.

Yet Mass. Bay Brewing is barely turning a profit, and the founders make just \$18,000 in salary each. It's a far cry from the quality of life enjoyed by their peers. "It takes a special person to say no to very attractive job offers and go to a small business," says Thomas Murphy, who co-wrote the original business plan with Doyle and now finances mergers at Goldman, Sachs & Co.

Indeed, it's not clear that a modest, low-tech business can support the wallets and ambitions of three MBAs. They've hired competent workers, and

he company doesn't demand as much attention as it used to. "It doesn't take three of us to run this business," says Ligeti, who is anxious for a new challenge. With his partners, he is looking to move the company into new businesses. Both Ligeti and Doyle will marry soon—Kenary is already wed—and are rethinking the costs and rewards of their startup. "We all have different parameters within which we're going to live or not live," Doyle says. After three years of sweat, the business is on solid footing. But the most difficult personal decisions—how long to stay and when to go—are still brewing.

PULLING THE PLUG ON A REAL ESTATE DATA BASE

Everything looked so good. It was December, 1986, and classes were finished. The wedding was coming up. And Steven Freeman, then 29, was on the verge of a great business opportunity. His Co-op & Condo Connection was going to revolutionize the Manhattan residential real estate market.

It never happened. People liked the idea of a computer data base that matched buyers and sellers—but not many would actually pay for it. Last September, after investing about \$30,000 of his family's money, Freeman threw in the towel. By then, "I was just falling apart," Freeman recalls. "It seemed so good on paper, and yet I couldn't do it."

What went wrong? A lot. While organizing his company, Freeman also was finishing his master's thesis for the University of Pennsylvania's Wharton School and doing part-time consulting. His partner and younger brother, Daniel, worked full-time in PaineWebber Inc.'s trading department. Neither anticipated the time commitment that a startup demands. And they limited their investor pool to relatives with scant resources.

Freeman, too, says he was crippled by an "Ivy League arrogance." He gave himself just three months to make the business work. And he underestimated the importance of marketing: "I valued my subjective assessment more than all the established wisdom." He didn't advertise, relying instead on word of mouth. A retail storefront, he realized later, would have been a lot more effective than phone sales.

Freeman moved in April, 1988, from Philadelphia to Albuquerque, where his wife teaches at the University of New Mexico. Relations with his brother Daniel, bumpy for



WHARTON GRAD STEVEN FREEMAN SAYS HE WAS CRIPPLED BY HIS "IVY LEAGUE ARROGANCE"

a time after the business failure, are good again. Freeman is now operations manager for Applied Research Associates, a small research-and-development company. He still thinks Co-op & Condo Connection is a good idea. "The system would work well anywhere," he says. But he doesn't think about it a whole lot.

TAKING A FLYER ON DIRECT MAIL

For an entire year, Dan Carmel has consumed burritos and coffee and little else. He hasn't had much sleep, and his social life has been, well, mostly theoretical. Now he has two things to show for all that: a brand-new Stanford MBA and a business plan.

Carmel wants to start a mail-order

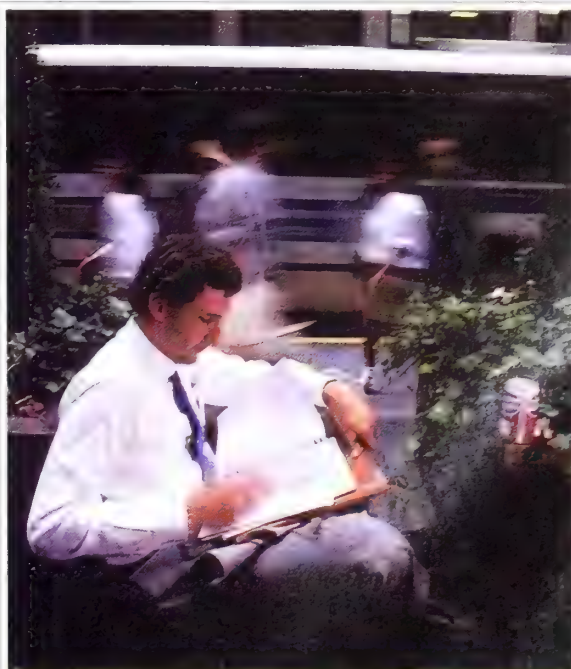
business targeted at people over 55. He drafted a rough plan for a class last fall, then wrote another. Since then, Carmel has been "trying to shoot it down"—consulting with direct-mail operators, doctors, and researchers. Last December, he canceled a vacation to Australia, opting instead to spend his winter break talking with Florida retirees. "This has been an obsession," says Mark Rollins, a Stanford classmate and housemate.

The business is ready to fly. Deep in debt from school loans, Carmel is looking for private investors to ante up the \$500,000 he needs to test the concept. He doesn't want money from friends or classmates, and he won't approach venture capital firms. And, he says, "if I find myself selling \$5,000 shares to doctors and dentists at a Holiday Inn, I'll know the plan hasn't hit its mark."

Carmel, 28, was a mechanical engineer before arriving at Stanford. "No, I've never run a direct-mail company, and I've never been old," he concedes. But he has helped start two engineering businesses before. Carmel has talked to more than 100 people about his plan and signed three experts on as advisers in return for equity.

Is he nervous? "I ask myself at least once a week: 'What the hell am I doing?'" Carmel says. He won't say much about his plan, because others with deeper pockets could easily duplicate it. He knows, too, that investors won't have much to bet on but his enthusiasm and dedication and the quality of the idea itself. But he believes in it strongly and is not expecting a big payoff right away. For now, he's looking for just enough money to stay even with his school debts and eat better than burritos every night.

By Keith H. Hammonds in Boston



CARMEL ASKS HIMSELF: "WHAT THE HELL AM I DOING?"

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FOREWARNED IS FOREARMED: FRIEDSON MAY HAVE TO FIND A MANUFACTURING SITE TO REPLACE CHINA

On a flight from Japan to the U.S. three years ago, David M. Friedson was playing with a new device that removed fuzz and "pills" from clothing. A woman seated behind him looked at it curiously and asked if she could buy one. That was all Friedson, the president of Windmere Corp., needed to hear. He added the Clothes Shaver to Windmere's lineup of blow dryers, curling irons, and other personal-care appliances—and it helped boost the company's revenues by 54% that year.

A knack for spotting hits made Windmere a highflier. In 1987, Friedson launched the Crimper and then the Waver, curling irons that make hair very wavy. Young women everywhere snapped them up. Suddenly, Windmere had brand recognition—Friedson's pay-off for 12 years of patiently transforming the company from a beauty-supply retailer to a serious player in personal-care appliances. Growth has been good. Last year's revenues jumped 33% from the year before, to \$193 million, and earnings were up 174%, to \$32.6 million. Its stock zoomed from \$11 a share to a high of \$27 in the past year.

But in late May, Windmere hit a wall: A slowdown in sales of its hit products had put a crimp in first-quarter performance. Not only had there been an 11% decline in earnings and a buildup in inventories but also management confessed that it had stumbled upon the bad news just two business days before releasing the quarterly numbers. The admission hasn't exactly inspired confidence, and some analysts now fret that Windmere might have to take a write-off before the year is out—although Friedson says that's unlikely.

STAYING IN CHINA. To make matters worse, the turmoil in China has cast a shadow over Windmere. Some 80% of its products are made there, and in the early days of the crisis, production slacked off. It has recovered, and the company will continue to manufacture in China through its Hong Kong-based subsidiary. But if Windmere has to exit at some point, it could cost plenty. Windmere's stock has been hit hard: It now trades at around 14.

Friedson is scrambling to solve Windmere's problems. He's tightening financial controls and reporting systems. He's

looking for alternative manufacturing sites. And he's making a big promotional push for new health-care appliances.

The 33-year-old president has grown up with Windmere's business. He quit college in 1977 to join his father Belvin's Save-Way Industries beauty and barber supply retail chain. He began expanding a new division that supplied hairdryers to Eckerd Drug Co. stores. Renamed Windmere in 1983, the company survived

an industry shakeout by staking out the low-end and private-label niches.

Windmere's competitive edge, of course, might erode if it has to move much manufacturing from China, where it employs 10,000 workers in Guangdong Province. China's rock-bottom, 30¢-an-hour labor rates position Windmere as the low-cost producer. "If it moves elsewhere, it's just another company," says Bert L. Boksen, an analyst with Raymond James & Associates. At least one competitor disagrees: "We're all in the same situation," says Aaron Shenkman, president of Helen of Troy Corp. "They know how to manufacture, whether it's in China or elsewhere—they'll be O.K."

PLAQUE ATTACK. The setback has cast doubt on earlier projections of reaching \$28 million in sales for 1989. "We just went through a storm," says Friedson, "and now we're trying to assess the damage." He does say, however, that slackened sales of Crimpers and Clothes Shavers will be more than offset by sales of new products.

Take Windmere's new line of electronic air cleaners. Three years ago, a buyout from Sears Roebuck & Co. invited Windmere and Trion Inc. in Sanford, N.C., to form a joint venture to manufacture air cleaners under the Sears label. Sales are up tenfold from the 35,000 units sold in the first year. Windmere will soon launch its own version of the air cleaner—in three sizes—with a \$3 million advertising campaign. Then there's the recently introduced electric rotary toothbrush called Plak-Trak, which will compete with Bausch & Lomb Inc.'s hot seller, Interplak.

Analysts figure the health-related products will add some stability to sales. "These aren't hula-hoops," says Edward Tavlin of Josephthal & Co. Maybe not. But as Friedson is finding out, getting to the top of an industry is not nearly as hard as staying there.

By Gail DeGeorge in Hialeah, Fla.



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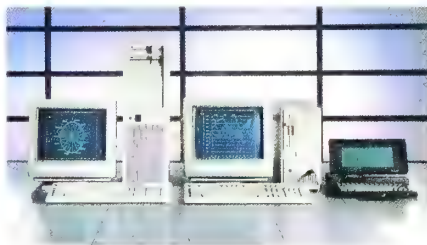
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FAT TIMES FOR STUDIOS, FATTER TIMES FOR STARS

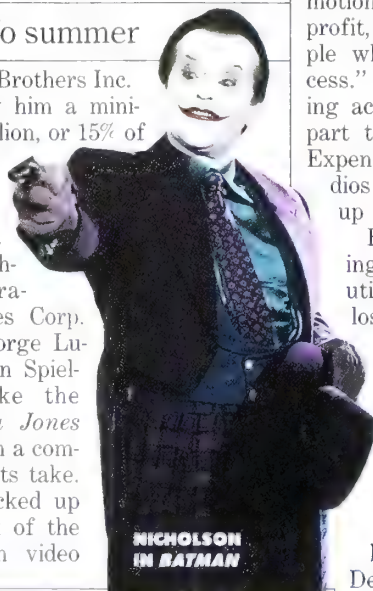
Getting a bigger cut, actors cash in on a boffo summer

With audiences packing theaters to see blockbusters such as *Batman*, *Ghostbusters II*, and *Indiana Jones and the Last Crusade*, Hollywood executives are chuckling all the way to the bank. But they'll have to wait at the deposit window behind Jack Nicholson, Bill Murray, and other names from the marquee. The studios that made the three films had to give top stars and directors a cut of what the industry calls its gross pool—the 40% or so of the domestic box office receipts that the studios receive from theater owners. The result: A lot of wealthy actors will get even wealthier.

The stars clearly have even more leverage than usual. After five lean years, Columbia Pictures, for one, was desperate for a hit when it negotiated the terms for *Ghostbusters II* a year ago. So it had little choice but to sign the deal that superagent Michael Ovitz had cooked up for his clients—Murray, Dan Aykroyd, Harold Ramis, and director Ivan Reitman—when they met in a backroom of Jimmy's, a Hollywood watering hole. Columbia gave the four, all of whom had worked on the original *Ghostbusters*, nearly half the studio's take from the sequel (table). The deal provided the stars with small up-front fees. Murray, for example, gets only \$25,000 up front compared with the \$8 million he got for *Scrooged*. But if *Ghostbusters II* does \$100 million at the box office, Murray will get \$6.8 million plus millions more from overseas and video sales. The studio may only break even on U.S. box office sales, say Hollywood insiders.

Columbia is not alone. To get Nicholson to play the Joker in *Bat-*

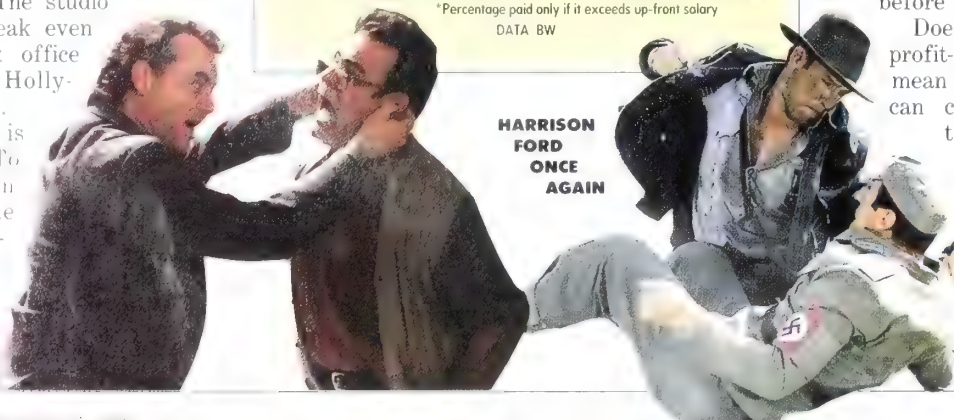
man, Warner Brothers Inc. agreed to pay him a minimum of \$7 million, or 15% of the studio's share of the box office receipts if that amount is higher. And Paramount Pictures Corp. persuaded George Lucas and Steven Spielberg to make the third *Indiana Jones* by giving them a combined 25% of its take. Lucas also picked up a large chunk of the proceeds from video



STAR POWER: WHO'S CASHING IN ON THE SUMMER HITS

	Up-front salary Dollars	Percent of studio take
BATMAN (WARNER BROTHERS)		
JACK NICHOLSON	\$7 million	15%*
MICHAEL KEATON	5 million	8*
GHOSTBUSTERS II (COLUMBIA)		
BILL MURRAY	25,000	15
DAN AYKROYD	50,000	10
HAROLD RAMIS	50,000	10
IVAN REITMAN, Director	125,000	10
INDIANA JONES AND THE LAST CRUSADE (PARAMOUNT)		
HARRISON FORD	2.5 million	5
GEORGE LUCAS, Producer	5 million	15
STEVEN SPIELBERG, Director	2.5 million	10

*Percentage paid only if it exceeds up-front salary
DATA: BW



sales along with merchandising rights to Indie's hat, whip, and other trinkets.

Studios say the new deals don't rule out a handsome profit. A box office smash in the U.S. can lead to a huge business in videocassettes and sizable revenues from cable and sales overseas. "No one should worry about us," says Sidney Ganis, president of Paramount's motion picture group. "When we make a profit, we don't mind sharing with people who are instrumental in our success." Indeed, the studios started offering actors a percentage of the take in part to put a lid on escalating costs. Expenses doubled in five years as studios shot for blockbusters by paying up for the hottest stars.

By cutting up-front fees and giving away profits instead, studio executives protect themselves from huge losses should a film bomb. The prototype was MCA Inc.'s Universal Pictures Div. and its 1988 deal to make *Twins*. To keep spending at \$18 million, Universal chief Thomas P. Pollock got Arnold Schwarzenegger to take 17.5% of the studio's gross and a minimal up-front salary instead of his usual \$9 million. Co-star Danny DeVito and director Reitman also took large cuts of the film instead of fat salaries. The arrangement left everyone happy: Universal needed a \$75 million box office to make a profit, and the film took in more than \$110 million at U.S. theaters.

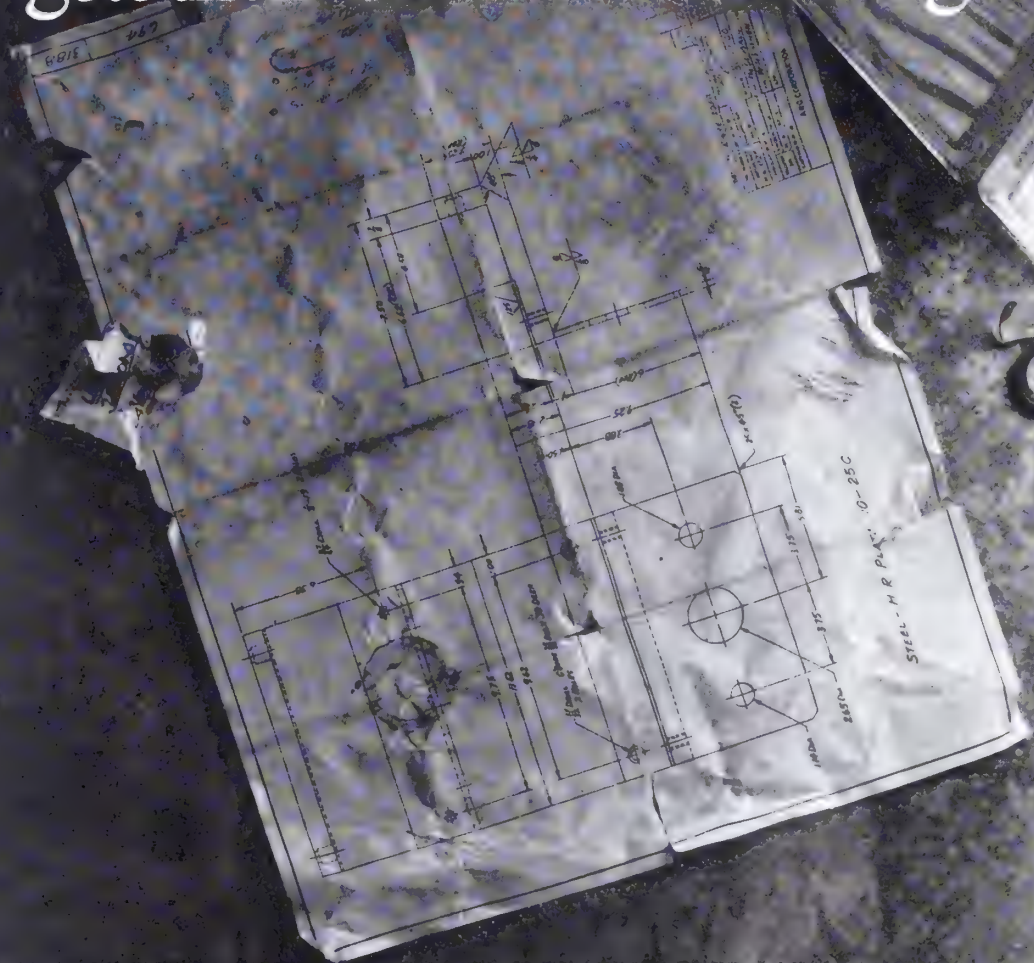
FIRST CUT. "When that one worked everyone started looking at their own deals," says producer Doris Simpson, who teamed up with Jerry Bruckheimer to make such hits as *Top Gun* and *Beverly Hills Cop*. Simpson and Bruckheimer recently signed a new five-year contract with Paramount giving them a cut of "the first dollar" the studio sees for anything they produce. That's important, notes Simpson, because the studios often insist on taking out a laundry list of overhead and charges before sharing the proceeds.

Does the spate of new profit-sharing arrangements mean Hollywood no longer can control its high-priced talent? Probably not.

But by being forced to give away a piece of the action, the studios find even their biggest hits are only a bit smaller.

By Ronald Groves
in Los Angeles

What happens when everyone who wants to get their hands on a drawing gets their hands on a drawing?



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A NEW SALES PITCH: THE ENVIRONMENT

How companies are cashing in on public concern over trash

You're socially aware. You know America is up to its eyeballs in trash, and you fret about all those nasty disposable diapers Junior goes through. Now, RMed International Inc. offers a way to throw away the guilt along with the diaper. The company sells a "biodegradable" baby wrap called Tender Care. Its pitch: "Change the world one diaper at a time."

Call it environmental marketing. Never mind that there's debate about how much "biodegradable" diapers buried deep in a landfill really degrade. Playing to environmental concern sells. Consumers are willing to pay an extra 5% to 10% for the Tender Care diaper. RMed's sales in the first six months more than doubled, to \$700,000, even though it has discontinued its regular diapers.

With polls showing Americans growing increasingly anxious about the future of the planet, more companies are striking similar environmentally friendly poses. "The whole Green movement is moving beyond just politics," says Stephen G. Bowen, president of J. Walter Thompson USA Inc. "It's becoming a day-to-day issue for many consumers."

FEATHERED FRIENDS. Of course, pitching woo to Mother Earth is nothing new to the chemical, oil, and auto industries, businesses long linked to pollution. Chevron Corp., for example, launched its "People Do" ads three years ago. One spot relates how Chevron delayed a gas pipeline project in Wyoming so as not to upset the mating season of local grouse.

What's different now is garbage. By 1995, according to the Environmental Protection Agency, half of the nation's 5,400 landfills will be closed. That means companies not often thought of as environmental bad guys—food and consumer-products makers—are now under intense fire for the tons of paper and plastic packaging they put out. "Everybody is walking around on eggshells," says Larry Sawyer, government affairs

director at General Mills Inc. To help postpone the day that becomes a literal statement, General Mills uses recycled paper in Cheerio boxes.

For Procter & Gamble Co., the garbage glut is a particularly noisome issue. With 47% of the \$3.7 billion disposable-diaper market, P&G is clearly concerned about biodegradable diapers. Last month, the company launched a study to



ON THE BEACH: ENVIRONMENTALLY FRIENDLY GOODS

back its claim that such diapers don't necessarily dissolve harmlessly into the ground. It also unveiled a pilot project to recycle regular disposable diapers into reusable pulp and plastic.

P&G alone accounts for an estimated 1% of the nation's solid waste, and that's one market-share number the consumer giant would dearly like to reduce. Last year, it unveiled a Spic & Span bottle that uses recycled plastic. It's also test-

ing the idea of offering pouches of concentrated liquid detergent so consumers could refill rather than discard the bulky plastic bottles. The idea is already a hit in West Germany with P&G's Lenor fabric softener brand.

A growing number of companies are feeling pressure to clean up their environmental acts before the government does it for them. McDonald's Corp. has long been under attack for the millions of plastic hamburger boxes it tosses out each year. In April, the Minneapolis City Council banned such plastic at food stores and restaurants. Similar measures have been passed in Berkeley, Calif., and Portland, Ore.

McDonald's calls such bans a bunch of rubbish. After all, EPA figures show that paper accounts for some 41% of typical landfill space and plastic only about 6%. Still, the chain is quietly using recycled paper for its kids' Happy Meal packages and recycled plastic for some of its trays. But for now, McDonald's isn't planning any media blitz to trumpet its do-gooding. "The more we advertise it, the more we identify it as a McDonald's problem," says Shelby Yastrow, the chain's general counsel.

PULLED PLUG. Others are anything but reticent. Last month, Loblaw Cos., the \$10 billion Canadian food distributor and grocery-store chain, launched a "Green" line of "environment friendly products" backed by a \$3 million TV and print ad campaign. The 100-item line includes so-called biodegradable diapers, bathroom tissue made from recycled paper, and foam plates made without ozone-destroying gases. Early signs are that Loblaw will do well from doing good. In its Ontario stores, the chain sold \$5 million worth of its Green products in June, double projected sales. The chain is thinking of introducing the line in its 100 U.S. stores, too.

Still, Loblaw has taken a few public-relations lumps. A Canadian group, Pollution Probe, endorsed about 10 of the Green items but later withdrew its backing of one, the diaper, after other groups raised questions about it. "There has been a lot of sniping," admits David A. Nichol, executive vice-president of Loblaw. The episode may have been an embarrassment for Loblaw, but the chain has no plans to retreat. For it and other companies, the public's growing yearning for a healthier environment offers plenty of opportunities to clean up.

By Brian Bremner in Chicago



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ENERGY CZAR—AND ENVIRONMENTAL ACTIVIST?

James Watkins is making tough calls on nuclear-plant safety

When President Bush picked retired Admiral James D. Watkins as Energy Secretary, prospects seemed dim that he would move quickly to clean up environmental and safety problems at the nation's nuclear-bomb factories. The \$100 billion task would mean shuttering most of the plants that produce the nation's nuclear arsenal—an unlikely move for a career military man who helped persuade President Reagan to embrace the Strategic Defense Initiative.

But in recent weeks, Watkins has confounded the stereotypes. On June 27, he declared health and the environment as important as weapons output and announced a plan to reward contractors for running safe plants. A week later, he invited the Federal Bureau of Investigation and the Environmental Protection Agency to join a new Energy Dept. environmental squad as it swooped down to inspect a facility near Buffalo. Plus, he has been blasting his own agency for "management ineptness." In an interview with *BUSINESS WEEK*, Watkins expressed surprise at the scope of the problems: "I did not expect the cancer to be this fully distributed throughout the Energy Dept.'s body."

OUTRAGE. His willingness to take this aggressive stance reflects, in part, his long experience with nuclear technology. Watkins, a mechanical engineer, received a degree from the U. S. Naval Academy and training in reactors at Oak Ridge National Laboratory. His stint in the Navy's nuclear program under Hyman G. Rickover persuaded him that environmental concerns and atomic energy are compatible. "We can manage the technology and protect the environment and the health and safety of our operations," he says.

Intensifying Watkins' determination to clean things up, friends say, is his moral outrage that the department's mismanagement both threatens the na-

tion's defenses and may have harmed the plants' workers and neighbors as well. His compassion comes as no surprise to people who know Watkins well. He bucked the Reagan Administration as head of its AIDS commission after seeing the devastation the disease had wrought and recommended such things



NEW ENERGY SECRETARY WATKINS HAS BLASTED HIS OWN AGENCY

as a ban on discrimination against people with AIDS. And on a business trip in May, Watkins made an unpublicized detour to spend several hours at the nation's leprosy sanatorium in Carville, La., hugging and talking with the patients.

Watkins, 62, is a skipper with a commanding presence, and he will need all his leadership skills to restore the Energy Dept.'s credibility. With evidence mounting that the Rocky Flats (Colo.) plant mishandled wastes and the Fernald (Ohio) operation fouled the air with radioactive and other pollutants, the FBI is probing allegations that some Energy

Dept. employees and contractors covered up health-and-safety violations.

To restore public confidence, Watkins is opening up the agency to unprecedented oversight. An agreement with Democratic Colorado Governor Roy Romo will allow state officials far greater access to the Rocky Flats plant. He has also brought in 10 governors and representatives from two Indian tribes to get their ideas for cleaning up the sites. In response to a lawsuit by homeowners near the Fernald uranium-processing facility, the department agreed on June 1 to a \$73 million settlement to cover medical monitoring of the residents.

OVERSIGHT BOARD. So far, Watkins is getting mostly high marks. Even skeptics, including Governor Romer, are impressed. "He wants to do the job right and he wants to clean up past mistakes quickly," says Romer, who is under pressure to close Rocky Flats.

Nonetheless, Romer has set up his own panel to monitor the area. Congress has established a board to make sure that the closed plants aren't reopened too soon. And lawmakers are giving Watkins a hard time about his choices for two top jobs. Victor Stello Jr., now head of operations for the Nuclear Regulatory Commission, is viewed by some as too sympathetic to the nuclear industry. They worry that, as chief of nuclear weapons production, he won't be strong enough on safety. And they say that Diane K. Morales, a consultant without technical training, is unqualified for the agency's top environmental post.

Some critics of the department doubt that the Energy Secretary can really change things. Watkins has instituted what he calls a "line management" approach at weapon plants to make the top manager responsible for safety and environmental compliance as well as production. But getting the retired Admiral's order carried out in a civilian agency is likely to be more difficult than it was in the Navy. "You can set off an atomic bomb at the top of the organization, but by the time it gets to the bottom, it's an unrecognizable ripple," says Richard I. Shank, director of Ohio's Environmental Protection Agency. Watkins, of course, wants to make waves.

By Vicki Cahoon in Washington, with William C. Symonds in Denver and Mary Mallory in Cleveland

ONCE THE PITTSBURGH PIRATES TEAMED UP WITH THE POSTAL SERVICE, EVERY PITCH HIT ITS MARK.



Jim Leyland, Pittsburgh Pirates manager, and a United States Postal Service employee.

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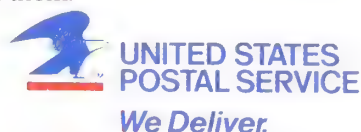
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MARKETS & INVESTMENTS

EARNINGS, SCHMERNINGS —LOOK AT THE CASH

These days, more investors are saying it's cash flow that counts

In coming weeks, Wall Streeters will be glued to their video terminals as companies start to report second-quarter earnings. It's a tense time, especially for securities analysts who pride themselves on the ability to forecast profits. But some savvy investors say the singular focus on net income is foolhardy. The bottom line isn't an end in itself but just the beginning of the more difficult, and more rewarding, process of tracking a company's cash flow.

Looking past earnings to invest in companies for their cash flow isn't new, but it's finding new popularity. It represents a return to one of the most basic rules in economics: The value of an investment is derived from cash flow. More than anything else, it's the boom in takeovers and leveraged buyouts that has turned investor attention toward cash flow. And scrutinizing it is more feasible now that the accountants require public companies to publish more

of the statistical building blocks. Some big companies are going further, talking up cash flow in their annual reports or asking Wall Street to look beyond their meager earnings and marvel at their bounteous streams of green.

The problem with cash flow is that not all investors see it quite the same way. Cash flow, in its simplest form, is net income plus items such as depreciation—bookkeeping charges that have cut into net income even though they don't take any cash out of the corporate coffers. Simple cash flow isn't a particularly useful figure by itself—it's just an accountant's way station (box).

FREE RIDE. Takeover artists and LBO operators hunt for "operating cash flow." That's the money generated by the company before the cost of financing and taxes come into play. LBO specialists will take on as much debt as their operating cash flow (OCF) can support—just as home buyers may borrow as much as a

lender will approve for their level of income. When the OCF is dedicated to debt payments, there isn't anything left over for taxes. But that's all right. Since there's no profit to declare, there won't be taxes to pay.

You don't have to be a raider to like OCF. In recent years, investing in companies based on their price-to-OCF multiple has been one of the best strategies around, says Robert C. Jones, an analyst at Goldman, Sachs & Co. In 1988, a portfolio comprised of the stocks that were cheapest in OCF terms would have gained about 30.5%—nearly double the return of the Standard & Poor's 500 stock index. For the first half of 1989, OCF stocks again beat the market though only by one percentage point.

While OCF is the broadest measure of a company's funds, some prefer to zero in on the narrower "free cash flow." That measures truly discretionary funds—company money that an owner

ould pocket without harming the business. Companies with free cash flow, and not all public companies have any, are golden. They can use it to boost dividends, buy back shares, or pay down debt. And businesses that look pricey based on earnings may be bargains when measured by the yardstick of free cash flow (table).

"I will not invest in a company that has no free cash flow," says Kenneth S. Ackel, whose Systematic Financial Management Inc. picks stocks for their cash-flow characteristics. That choice immediately cuts out many hot-growth companies that consume more cash than they generate and thus depend on external financing. The constraint hasn't cost Ackel much in performance: Since 1980, his portfolio has recorded annual average returns of more than 20%. It was up 10% in 1988 and 17% in the first half of 1989.

CONSUMER LOYALTY. A few industries, including real estate and energy, have long been viewed through a cash-flow prism. In real estate, depreciation usually wipes out "profits"—even though the property is actually appreciating. For oil and gas, depletion knocks the wind out of earnings. But increasingly, the cash-flow standard is applied to companies with valuable "franchises" in their markets. Tobacco, food, and media companies are among those where tangible assets matter a lot less than the consumer loyalty they command.

That's what Time Inc. Chairman J. Richard Munro told shareholders at the recent annual meeting: "When it comes to valuing media and entertainment companies like ours, what matters is not profits but cash flow." Munro had good reason for his conversion to the cult of cash flow. If Time succeeds in its bid to acquire Warner Communications Inc. for \$10 a share, earnings will disappear for several years to come. Likewise, executives at Paramount Communications Inc. have asked Wall Street to look at it as a company driven by cash flow, rather than by earnings. If Paramount prevails in its quest to buy Time for \$200 a share, its profits will vanish.

Are the media moguls trying to deflect investor concern that earnings are going to the dogs? Not really. "Reported earnings are a complete fiction," says Robert L. Wiley III, who follows media companies for brokers Furman Selz, Pomeroy Dietz & Birney Inc. "Earnings have nothing to do with what cash flows the company has available to it." In fact, Wiley argues that either deal involving Time would allow ample cash to service debt immediately and would generate enough free cash flow to start paying down the principal by 1991.

The best reason for judging a "franchise" company by its cash flow is that

CASH FLOW? WHAT DO YOU MEAN BY THAT?

$$\text{CASH FLOW} = \text{NET INCOME} + \text{DEPRECIATION} + \text{DEPLETION} + \text{AMORTIZATION}$$

NET INCOME It's the bottom line but just the starting point when figuring out a company's cash flow

DEPRECIATION An accounting charge that writes down the cost of an asset, such as a factory or a machine tool, over its useful life. This charge is made for shareholder and tax reporting, but it does not require cash outlays

DEPLETION When the asset being used is

a natural resource, such as oil, gas, coal, or minerals, the write-off is called depletion

AMORTIZATION A write-down of limited-term or intangible assets is called amortization. Acquisitive companies often have an entry on the books called goodwill, the difference between what they paid for a company and the lower book value. Goodwill is amortized over a long period, usually 40 years, and requires no cash outlay

$$\text{OPERATING CASH FLOW} = \text{CASH FLOW} + \text{INTEREST EXPENSE} + \text{INCOME TAX EXPENSE}$$

INTEREST EXPENSE Add back the interest expense to get the broadest measure of cash flow. If you're a raider, you'll reorder the whole debt scene anyway

INCOME TAX EXPENSE Add back the taxes because they won't have to be paid after a new owner adds so much debt that there is no book profit and hence no tax due

$$\text{FREE CASH FLOW} = \text{CASH FLOW} - \text{CAPITAL EXPENDITURES} - \text{DIVIDENDS}$$

CAPITAL EXPENDITURES Subtract only the capital expenditures necessary to maintain plant and equipment and keep the company competitive but not optional ones such as a costly new headquarters

DIVIDENDS If the company deems the dividend sacrosanct, deduct it here. But if a major recapitalization is under way, the dividend will probably be scratched anyway and need not be deducted

it usually has a lot of goodwill on the balance sheet. That's the difference between what the business paid for an acquisition and the target's lower book value. Accounting rules make companies amortize the goodwill, which reduces reported profit. And since the write-off is not tax deductible, there's no tax savings. Even though the write-off may be spread over as many as 40 years, the impact on reported profits can be substantial. Wiley estimates that annual goodwill write-offs for Paramount could be as much as \$257 million, or \$2.20 per

share, and \$313 million, or \$5.53 per share, for Time.

The case for cash flow doesn't mean that profits are passé. For most investors, net income will remain the handiest snapshot of a company. Even so, following the cash as it flows through a company, says Stuart Crane, an analyst with Gruntal & Co., "gives you insight into the quality of earnings." Indeed, if profits are soaring, but the cash flow isn't, a company's good fortunes may prove to be short-lived.

By Jeffrey M. Laderman in New York

WHERE CASH FLOW TELLS A DIFFERENT STORY

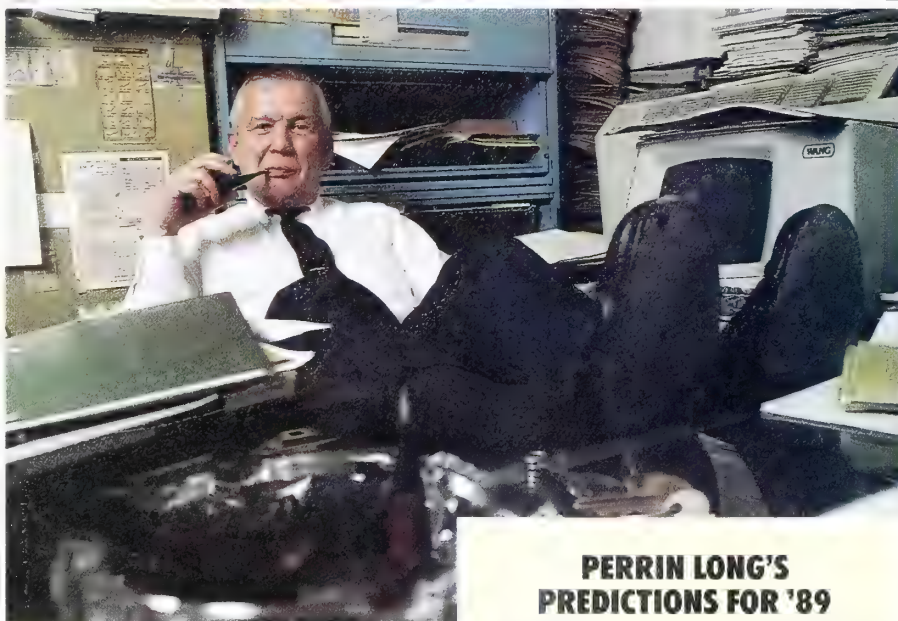
Based on the widely used yardstick of price-earnings ratios, all of these stocks appear pricey. Each has a p-e of at least 19, vs. 13.7 for the Standard & Poor's industrials. For free cash flow, the average multiple is 25.5; on that basis, all these companies look cheap

Company	Price-earnings ratio	Price-free cash flow ratio	Company	Price-earnings ratio	Price-free cash flow ratio
BELO (A.H.)	60.7	16.3	MEREDITH	21.0	10.0
BOWNE & CO.	24.5	17.3	MULTIMEDIA	39.5	14.4
CAMPBELL SOUP	23.5	18.6	NETWORK SYSTEMS	23.9	15.9
CORDIS	33.9	8.7	OCCIDENTAL PETROLEUM	25.9	10.8
GENERAL SIGNAL	44.5	11.1	SANTA FE SOUTHERN PACIFIC	29.3	9.7
HALLIBURTON	47.5	9.2	TGI FRIDAY'S	20.7	12.1
HUFFY	26.1	18.8	UNITED ASSET MANAGEMENT	21.2	11.9
ITEL	38.1	16.6	VOLT INFORMATION SCIENCES	49.3	9.3
KNIGHT-RIDDER	20.9	18.6	WEINGARTEN REALTY TRUST	25.8	12.4
LOTUS DEVELOPMENT	23.4	13.9	WILEY (JOHN) & SONS	60.0	12.1

DATA: SYSTEMATIC FINANCIAL MANAGEMENT INC.

PERRIN LONG: THE LONER EVERYBODY LISTENS TO

While the Street watches the Dow, he watches the Street



A few years ago, Stephen J. Schwartz was starting out in the most sensitive specialty any Wall Street analyst can have—analyzing Wall Street firms themselves. He soon had a pleasant surprise: Perrin H. Long Jr., the doyen of the craft, invited Schwartz to lunch to help him get his feet on the ground. "I figured he wouldn't talk to me because he was so well known," recalls Schwartz. "But he's always willing to help someone." (And they stay in touch even though Schwartz has left the Street for another financial job.)

To be sure, Long doesn't fit the mold of a sharp-elbowed Wall Street yuppie. At 60, he is patient, pipe-smoking, and plainspoken, with a Baltimore twang. Unlike most of today's ambitious number-crunchers, he doesn't have an MBA. Nor does he have the resources of his counterparts in big firms, who can glean information from their colleagues in investment banking and arbitrage. Long is a loner. His firm is Perrin Long Inc., consisting of himself, a secretary and, at times, a clerk. Their office, near historic Trinity Church, always looks as if the filing cabinets had all sprung open and spilled papers everywhere.

Nonetheless, he is the most widely quoted and one of the most influential

PERRIN LONG'S PREDICTIONS FOR '89

Rankings by amount of capital	Earnings per share	
	Projected 1989	Actual 1988
SHEARSON LEHMAN HUTTON	\$1.40	\$0.81
SALOMON BROTHERS	2.15	1.65
MERRILL LYNCH	2.35	1.88
PAINHEWBER	.90	.58
BEAR STEARNS	1.85	1.48
MORGAN STANLEY	8.25	10.26
A.G. EDWARDS	2.40	1.70
CHARLES SCHWAB	.67	.27
INTERREGIONAL SECURITIES	.30	-1.05
QUICK & REILLY	1.08	1.05
ADVEST	.57	.32

DATA: LIPPER ANALYTICAL SECURITIES CORP

analysts on the Street. Long says he receives—and returns—as many as 200 calls a week from reporters. Right now, with the Street's spirits lifting for the first time since the 1987 crash, the focus is on profit prospects. Thanks to the modest return of individual investors, Long expects the Dow Jones industrial average to exceed 2700 this summer, from about 2500 now. Long, who has a good record in this area, looks for higher 1989 earnings for nearly all large firms (table).

In addition to predicting earnings,

Long is not bashful about advising Street firms—for free and in public—about how to do better. Noting that Salomon Brothers Inc. has said that it will report record earnings for the June quarter, Long says that to keep improving Salomon must get "its management team working together again" after many months of dissension and departures. What Morgan Stanley & Co. ought to do, he recommends, is cut its costs "by \$50 million overall this year as a hedge against a possible slowdown in mergers. Discount broker Charles Schwab & Co. should go for more customers by opening 15 new offices in 1989. And, by the way, 15 more in 1990."

PEN PALS. One of Long's assets is a breezy relationship with many reporters over the years addressing one as "Bucktonhead" and another as "Bikini Baby." Explains Long: "Older people have to make time for younger people. Besides, no phone call lasts more than 5 or 10 minutes." His main client, Lipper Analytical Securities Corp., doesn't mind, because when he is quoted, Lipper's name usually gets some free ink, too.

The media aren't the only ones paying close attention to Long's observation and forecasts. Says Benjamin F. Edwards III, chairman of St. Louis-based A. G. Edwards & Sons: "I didn't agree when he said a while back that we were underusing our capital." Edwards notes that "Perrin's strength is that he will say what he thinks, even if he knows we won't agree with him. It's good because it makes us think through our position."

At times, Long has criticized Chairman William A. Schreyer for not cutting Merrill Lynch & Co.'s costs to the bone (BW—July 17). The relationship is, for Long, an unusually frosty one: Merrill, he says, "is less cooperative and more sensitive than other firms. Sometimes it takes two years to see Schreyer. I don't think the guy likes me." In response, Merrill spokesman says, "That's not true" and calls Long "a good analyst with ample access to other Merrill brass."

Long, who worked for E. F. Hutton & Co. before starting his own firm in 1977, believes that for the long haul, Wall Street is on the wrong track: The much vaunted global trading is only a costly fad, and many firms are too big and too diversified. "It's just hard to please so many different customers at the same time," he maintains. This view strikes some go-go executives as hopelessly old-fashioned. But even when Long draws some barbs in return, the Street's respect is obvious. "He's a dinosaur," says one Wall Street chieftain. "But don't quote me. I don't want to get him mad at me."

By Jon Friedman in New York

THERE'S NO KEEPING THIS BANK DOWN ON THE FARM

Agricultural lender Norinchukin barrels into global investing

Japanese banker Kenichi Hara had never worked overseas when he arrived in New York in 1982. Before long, he developed a keen taste for jazz the Blue Note and Puccini at the Metropolitan Opera. Now back in Japan, Hara makes do with American movies such as *Wall Street*. He keeps in touch with the real Wall Street, too, as he judges Norinchukin Bank into the world-class role it can well afford to play. Although better known to Japan's farmers than to the West's bankers, Norinchukin's \$244 billion assets make it the seventh-largest bank in the world.

Norinchukin long stood apart from Japan's foreign-investment drive, restricting its loans to farm and fishing cooperatives. But as Japan's farm sector has faded in importance, agricultural loan demand has declined, now sopping up only \$4 billion of Norinchukin's \$191 billion in deposits. By contrast, New York's Citicorp, with \$208 billion in assets and \$157 billion in deposits, has nearly \$145 billion in loans outstanding worldwide.

CENTRAL BANK GUIDE. More properly known as the Central Co-operative Bank for Agriculture & Forestry, Norinchukin now has \$55.5 billion in international investments, a tenfold increase in fewer than five years. With a quarter of the bank's assets in U.S. Treasuries and Eurobonds, a new foreign equity unit is buying U.S. food issues. (The bank won't disclose which ones.) And a flashy new Tokyo headquarters trading room, with space for twice the current staff of 100, is helping Norinchukin shed its down-on-the-farm image. "To be a minor player isn't enough," says Hara, general manager of Norinchukin's international planning division. "We must have the strength to move the market."

As its cash has piled up, Norinchukin additionally has purchased wagonloads of long-term Japanese government bonds, becoming the government's largest bond buyer. As such, Norinchukin has assumed a key behind-the-scenes role in helping the central bank guide Japanese monetary policy. Says one Tokyo banker: "When the Bank of Japan

needs to speak with someone, Norinchukin is the first to get a call."

But even Japan's government bond market, with more than \$1 trillion in debt outstanding, hasn't satisfied Norinchukin's appetite. With its assets growing at a rapid 23% annual rate in recent years (chart), the bank has started moving in a big way into the blue chips of

Right now, though, Norinchukin is staying in the barn, at least as far as Treasuries go. With the dollar up about 8% since early 1989, "we're not buying," says Yoshiyuki Hata, an international planning manager. Still, Hata hasn't soured on the U.S. He thinks the dollar will pull back soon. And when it does, he says, "we'll start buying again."

HEARTLAND PUSH. Indeed, even as its bond-buying spree has paused, Norinchukin is pressing ahead on other fronts. The steady march by Japanese food companies into the American heartland, for instance, is bringing Norinchukin plenty of business. The bank provided more than half the financing when Zen-noh, the commercial arm of Japan's National Federation of Agricultural Co-operative Assns., bought St. Louis-based Consolidated Grain & Barge for \$70 million last year.

This fall, the bank plans to issue dollar-denominated bonds, aimed mainly at providing funds for Japanese who need greenbacks instead of yen to build factories and buy companies in America. Norinchukin's overseas presence also has grown to include securities subsidiaries in London and Zurich.

Recently, Norinchukin managed a \$100 million Eurobond issue for a Norwegian government agency, and it also has helped underwrite an issue for Austria. "They are doing very sophisticated deals, and they have a powerful sales network," says a Japanese banker. But there may be a limit to how far Norinchukin can branch out. Japanese government regulations still restrict the bank's foreign lending to governments, multilateral agencies, or businesses that have some connection to the bank's farm co-op members. As a result, Norinchukin still has only 3% of its loans outside Japan. Hara hopes to raise that to 10% in the near future.

So far, even though other Japanese banks have pumped some \$15 billion into leveraged buyouts, Norinchukin has steered clear of LBOs. This reflects the bank's lack of familiarity with such deals as well as its dislike for the risk involved. "It's not part of our nature," says Hara. But over time, Norinchukin executives could change their minds.

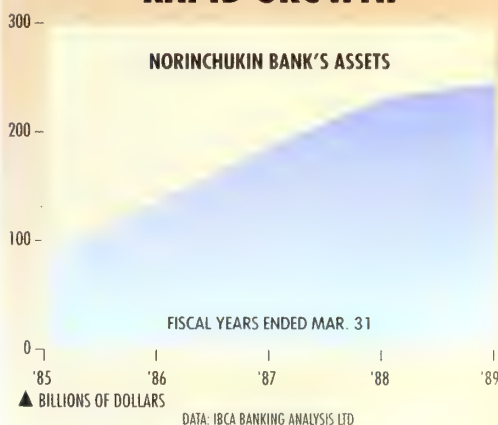
Just 10 years ago, the bank had no international division and virtually no money overseas. "Things can change quickly—that's what I learned in the U.S.," says Hara. Whatever the pace of change, Norinchukin's need to put its cornucopia of cash to work will make it more of a force to be reckoned with—far from the rice paddies back home.

By Ted Holden in Tokyo



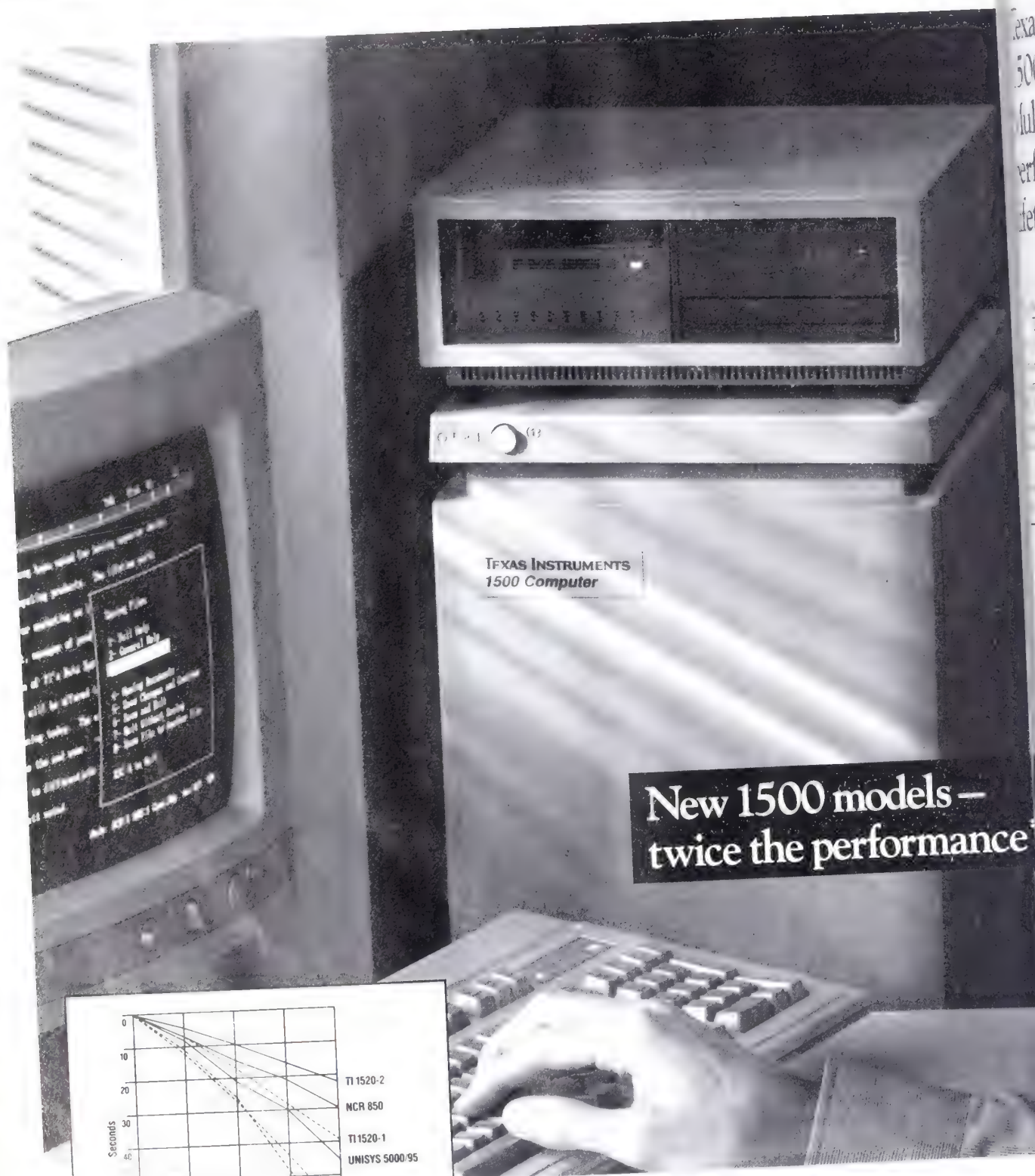
TOKYO HEADQUARTERS

A GIANT FARM LENDER'S RAPID GROWTH



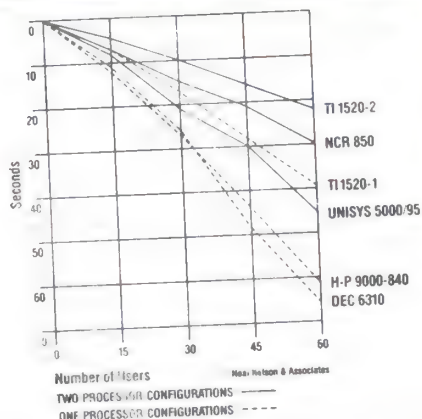
the international bond trade. It has been buying yen-denominated bonds issued in Europe by such familiar names as Toyota Motor Corp., the World Bank, and the governments of Finland and Belgium. And U.S. Treasuries, of course. In some recent months, Tokyo bankers estimate, Norinchukin has bought as much as 5% to 8% of all new Treasury bills and bonds.

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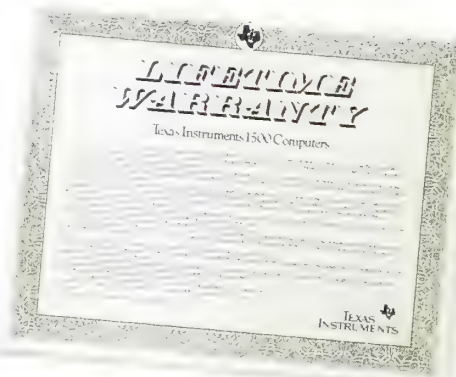
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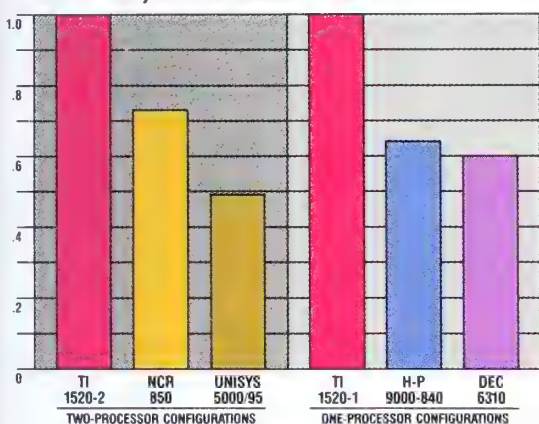
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TEXAS
INSTRUMENTS

BY GENE G. MARCIAL

IS PRIVACY THE GOAL OF MAPCO'S MANEUVERS?

In a market environment where takeover is the magic word that sends stocks soaring, Mapco should be flying high. Several takeover pros say the company, an operator of oil pipelines and coal mines, is definitely buyout bait, with grossly undervalued assets, hefty cash surplus, and modest debt burden. The stock hit a high of 42 last month, stirring up investor hopes for a takeover battle. But now it's trading at 39. Why?

Chairman and CEO James Barnes, who is aware of takeover rumors, hasn't sat idly by. After doubling the dividend to 50¢ a share and splitting the stock in May, Barnes set off an offensive-defensive strategy that makes it hard for raiders to accumulate large numbers of shares.

Mapco is using Goldman Sachs to snap up any sizable block being offered in the market. That has kept the stock up, but it has also foiled big takeover players from loading up on shares of Mapco.

The company's plan is to repurchase up to 10 million shares, or 25% of the 39.8 shares outstanding. Buying back such a huge number of shares is unusual, particularly since Mapco has already shrunk its outstanding shares by 35%—some 22 million—since 1985.

"What you're seeing is a creeping takeover by management, which apparently wants to take the company private rather than be taken over," says Stuart Shikar, managing director of Prudential-Bache Investment Management. He notes that Mapco is a raider's type of company because it could be broken up easily and its pieces sold. Shikar has a big position in Mapco and has found it difficult to buy large chunks of the stock.

HOLDING FAST. Shikar notes that institutions with hefty positions in Mapco have been reluctant to sell because they recognize that the company is an attractive buyout candidate. Two wealthy Texas oil groups, including a partnership that has close links with investor T. Boone Pickens Jr., are rumored to have a combined 3.5% stake in Mapco and to be trying to buy more.

Mapco used to be Mid-America Pipeline Co.—the company's original business, which accounted for nearly 40%

MAPCO: STILL IN AN UPTREND



of last year's operating profits. Mapco also operates two crude-oil refineries in Alaska and Tennessee, six underground coal mines in Illinois, Kentucky, and Maryland, and about 270 gasoline stations that are also convenience stores.

Earnings hit \$2.95 a share last year, and Pru-Bache's Shikar expects profits to jump to \$3.50 this year. Based on a multiple of this year's estimated earnings and cash flow, he figures Mapco's breakup value to be \$55 a share.

BARGAIN DAYS AT A DISCOUNT CLUB

Last month, when retailer Zayre (now called TJX Cos.) spun off Waban, its warehouse-club outlet division, the expected happened: Most Zayre holders, who received one Waban share for every two Zayre shares they owned, quickly sold their Waban stakes.

That sent the stock down from 18 to 14 in just a month. But then the smart-money crowd started moving in, scooping up many of the fallen shares, which have now recovered to 17.

"In a slowing economy, investors will be looking for companies that have shown strong growth over the years, whose stocks have yet to catch up," says Jim Awad, president of BMI Capital. He believes that Waban is one of those companies.

Its stock is a bargain in the booming warehouse-club retailing business, he says. Waban operates HomeClub and BJ's Wholesale Club, which sell general merchandise and food. For an annual fee, warehouse-club members can buy

name-brand items at deep discounts and there is no limit on quantity.

The biggies in the warehouse-club business trade at much higher price earnings ratios than Waban's 16. Costco Wholesale has a p/e of 22. Home Depot's is 21, and Pace Membership Warehouse is 20.

Awad projects sales of \$2.1 billion for Waban next year, putting the company in third place behind industry leader Home Depot. He thinks the stock deserves a multiple of 20, similar to its industry peers. Awad expects earnings of \$1.10 a share for 1989 and \$1.55 for 1990. Based on Awad's 1990 estimate, Waban is worth \$31 a share.

THIS PENMAKER'S INK IS ALL BLACK

Ever use an inkless pen that writes on colored paper or a marker that sends out pleasant fruit scents? Those kinds of writing instruments have triggered spectacular growth for Pentech International. Sales in 1986 totaled only \$4 million, but last year they hit \$17 million, and analysts project that they'll spurt to \$26 million this year and to \$35 million in 1990.

"The nation's largest retail chains can't fill their shelves fast enough with Pentech pens and writing stuff," says Andrew Lanyi, a managing partner at Ladenburg Thalmann. He has been buying shares, convinced that Pentech, currently selling at 4%, could double despite its rise since January, when it traded at 3. Lanyi expects earnings to climb to 25¢ a share this year and to 36¢ in 1990, up from 17¢ last year.

Another Pentech fan is Dick Edelman, senior vice-president at Dallas Southwest Securities. He believes that Pentech's fast growth will produce revenues of \$50 million by 1991 and net earnings of about 50¢ to 55¢ a share.

Pentech, which sells its low-priced, colorfully packaged products in the outlets of retailing giants such as Wal-Mart, Woolworth, and Walgreen, competes with industry leaders Bic, Paper Mate, and Pilot Pen. But there's one big difference that gives Pentech an edge: It has been introducing about 20 new products a year.

The company has already started exporting to Japan, Mexico, and several European nations. And with Pentech products being made by subcontractors in Italy, Korea, Taiwan, and Indonesia, the company had a cash flow of \$2.9 million for the first quarter of 1989, with no long-term debt.



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THE UAW VS. JAPAN: IT'S SHOWDOWN TIME IN TENNESSEE

The first union election at a Japanese plant represents a crucial test for the auto workers

Richard D. Davidson counted himself one of the lucky ones in 1984 when he landed a highly paid job at Nissan Motor Manufacturing Corp.'s newly opened plant in rural Smyrna, Tenn. But then he wrenched his back while installing 30-pound drive shafts in pickup trucks and Sentras. Now, the 28-year-old Davidson faces dismissal under a Nissan policy that requires "administrative termination" after 30 months of disability leave. Embittered, he believes his only chance to get his job back is to vote for the United Auto Workers in a July 26-27 election.

As the first election conducted by the National Labor Relations Board at a Japanese auto plant, the Nissan vote involves far more than 2,400 potential new members for the UAW. The union is struggling to maintain its bargaining leverage as Japanese cars grab an increasing share of the U.S. market. The Japanese-American plants, or "transplants," already account for nearly 15% of the cars produced domestically, and that percentage is likely to rise sharply in the next few years.

ANTIUNION LINE. The UAW represents workers at only three of the seven Japanese transplants—the three with ties to Detroit's Big Three carmakers (table). The situation is very different at Nissan and the three other nonunion plants, which built 8.3% of U.S.-made cars in the first half of 1989.

In Smyrna, the UAW's core support comes from workers such as Davidson who protest Nissan's personnel policies and work practices. Davidson contends that he is able to handle light jobs off the assembly line, the kind that are available for partially disabled workers in many UAW-represented plants. But Nissan and other Japanese companies tend to hire outside contractors to perform off-line work. Charges James R. Weaver, the UAW's chief organizer in Smyrna: "Management tells workers, 'If you can't hack it, get your jacket.'"

Nissan isn't responding publicly to such union charges. But its American managers have been talking an anti-union line since 1983, when the plant was hailed as a savior of a farming com-

munity grappling with double-digit unemployment. More than 120,000 locals applied for the plant's initial 3,200 hourly and salaried jobs. The company told hires they were the "cream of the crop," Davidson remembers, and promised them they would be part of a close-knit "family" work group. But Nissan's top management, including three executives recruited from Ford Motor Co., has installed a flawed version of that Japanese concept, some workers say.

To beat the UAW, the company is carrying on a fierce antiunion battle through in-plant TV presentations that

focus on scenes of strike violence. Such propaganda works in a region with an antiunion culture. This, combined with the \$14.80 hourly wage paid to the average worker with three years' service—more than 60% above the regional rate for manufacturing jobs—is forcing the UAW to wage an uphill battle.

Nissan's paternalistic policies gain it the loyalty of some employees. The company sponsors an International Folk Festival, funds such civic causes as the Murfreesboro Symphony, and provides robotics and electronics equipment for high school classes. Thanks to more than



WHERE THE UNION STANDS AT JAPANESE AUTO PLANTS

Company	Location	Hourly employees	
		Now	1992
ORGANIZED BY UAW			
DIAMOND-STAR MOTORS Chrysler-Mitsubishi joint venture	Normal, Ill.	2,300	2,300
MAZDA MOTOR Ford owns 25% of Mazda, which makes Ford Probe here, as well as Mazdas	Flat Rock, Mich.	2,800	2,800
NEW UNITED MOTOR Toyota-General Motors joint venture	Fremont, Calif.	2,350	2,900
NONUNION			
HONDA OF AMERICA	Marysville, East Liberty, Anna, Ohio	7,000	8,000
NISSAN MOTOR	Smyrna, Tenn.	2,400	4,150
SUBARU-ISUZU AUTOMOTIVE Fuji Heavy-Isuzu joint venture	Lafayette, Ind.	500	1,400
TOYOTA MOTOR	Georgetown, Ky.	2,500	3,500

DATA BW

million in annual tax payments from San, Smyrna has lowered property taxes 25%. The company also provides workers with a fitness center and a chance to lease a new Nissan every year. "I've had some good jobs in my time, but this is the best there ever was," says six-year-employee George T. Peterson, who is bitter about a three-month strike at a previous unionized job.

BREAKS. But if the pay and perks are good, many of Nissan's mostly young employees complain about a grueling work pace. Like most Japanese assembly systems, Nissan's is aimed at producing ever more cars with ever fewer people, which means eliminating wasted time. Some employees claim supervisors tell assemblers to restrict their use of liquids to reduce the need for breaks. "You feel just like a robot," says 27-year-old employee Buddy Shonting, pointing to the scars on his hand from free operations for carpal tunnel syndrome. "If we don't get a union, I figure in more years will be all I can last." The number of injuries causing workdays to miss more than a week jumped 6% to 151, last year, according to the Tennessee Dept. of Labor. Dr. Michael Silverstein, a UAW health and safety official, estimates that one in five Nissan workers suffered an injury in 1988. This is a higher rate than recorded at most auto plants, Silverstein says, though he cautions that different reporting methods make comparisons difficult. Nissan counters that its safety record is better than the industry average.

But when four workers recently asked to inspect the plant's injury logs—legal access open to all employees—Nissan refused, calling the foursome "agents" of the UAW. Management also argued that the logs contain confidential medical histories. That didn't appease Tennessee's Occupational Safety & Health Administration, which slapped the automaker with a \$5,000 fine for noncompliance. Nissan says it will appeal the ruling, a move the union contends will keep the logs sealed until after the election. The election will probably turn on classic issues involving working conditions and a perception by employees such as Davidson that the company isn't interested in his future. "A job isn't any good if you can't be there to retire," he says. But the company's trump hand may be its planned \$490 million expansion. By 1992, Nissan hopes to increase production by 80% and employ an additional 1,750 hourly workers while transforming the Smyrna plant into the nation's largest auto facility under a single roof. Whichever side wins, the margin could be very close.

By Dean Foust in Smyrna, Tenn., with Andy Zellner and James B. Treece in Detroit and Amy Borrus in Tokyo



There's one news analysis program considered "can't miss" by Washington officials. The McLaughlin Group.

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HELPING NEW INVENTIONS MEET THEIR MAKERS

The odds against getting a creation to market can be beaten

You may think independent inventors are a vanishing breed, but don't tell that to the would-be Thomas Edisons who gather twice a month in downtown Chicago to show off inventions ranging from "AIDS-proof" syringes that retract automatically to protect health care personnel to hair curlers that clamp tight without elastic. "The independent inventor is alive and well," declares Donald F. Moyer, the physicist and historian who founded the Inventors' Council six years ago.

Moyer's not-for-profit council is one of about 200 groups in the U.S. organized to help independent inventors market their ideas, according to Martin J. Bernard III, an engineer at Argonne National Laboratory in Argonne, Ill., who is studying such groups. Although the Inventors' Council has the broadest national reach, with 4,000 inventors from Florida to Alaska, others, such as the Inventors Association of New England and the Minnesota Inventors Resource Center, are regionally dominant.

Government and university efforts to encourage innovation have played a major role in the formation of inventors' groups. "The U.S. has recognized that the key to reversing its declining competitiveness is to encourage invention," says Marilyn Brown, a technology transfer official at the Oak Ridge National Laboratory in Oak Ridge, Tenn. Since the early 1980s, the National Institute of Standards & Technology and the Energy Dept., for example, have offered grants to inventors' groups.

BETTER ODDS. Academic institutions, including the University of Michigan at Ann Arbor, have helped organize local inventors' groups. Some schools help inventors build prototypes, meet manufacturers, and run patent searches, while others simply provide a meeting place. The Inventors Association of New England, for example, meets at Massachusetts Institute of Technology.

The various groups share a common goal: to help members beat the odds against their inventions ever making it out of the workshop. For that reason, many are paying close attention to the Chicago council's industrial-affiliates

program, which has been the most aggressive in trying to link inventors with manufacturers.

Moyer started the industrial-affiliates program after he realized that many small manufacturers were hungry for new product ideas. Some 17 industrial



INVENTOR SIEGAL: "IT'S NOT THE IDEA THAT COUNTS. IT'S THE PRODUCT"

companies are now members. Moyer helps the companies sharpen their ideas for new products and then sends out general specifications to the council's inventors, who can reply with nonconfidential proposals.

The council recently completed new-product development studies for 10 companies. Several are looking into the feasibility of the inventors' ideas, which range from a new device to measure and dispense chemicals for research to a tool that fishermen use to tie flies. "There may be an inventor out there with another hula hoop," says Waver E. Armstrong, president of Unimetrics Corp., a Shorewood (Ill.) maker of precision syringes that joined the program. "And if there is, I'd like to meet him."

LONELY GAME. To offset the disadvantage inventors may have in negotiating royalty deals with manufacturers and investors, the Inventors' Council holds seminars on patent law, licensing, and marketing. It also warns inventors about

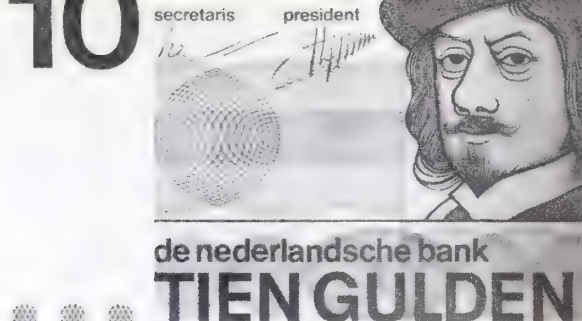
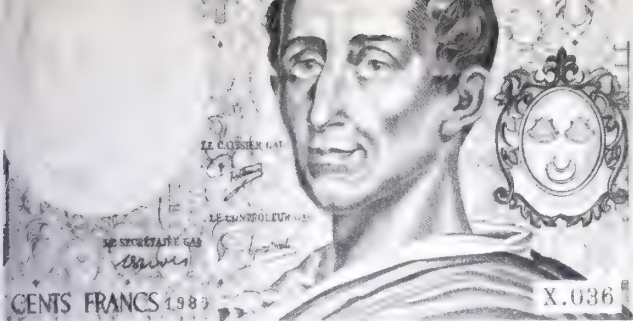
slip "invention-development firms" that can take advantage of unsophisticated inventors by collecting fees in exchange for promises to market inventions.

For solitary inventors, the groups provide much-needed feedback. Only a few dozen of the Chicago council's inventors, for example, make their living at it. The rest include artists, welders, industrial designers, truck drivers, farmers, filmmakers, dentists, and even a few accountants. "Inventing is a very lonely game," says council member Paul J. Whitene Jr., an electrical engineer and the inventor of a computerized biofeedback device that helps tennis players improve their swing. "You can deceive yourself very easily into thinking you have invented something—and you really haven't."

Even with help, many independent inventors still fare poorly. That's not surprising, says Burton Siegal, a prolific 37-year-old inventor who is president of his own firm, Budd Engineering in Skokie, Ill. "The first time a mediocre invention comes up with a solution, he quits," Siegal says. "A good inventor will come up with three or four or even five different solutions."

Siegal says that successful inventors focus on turning ideas into products that will sell. "It's not the idea that counts. It's the product," says Siegal, who holds more than 90 patents in some 35 different fields. Indeed, Siegal says he only invented a device that could dry hair in just five minutes. It never got to market, however, because salons wanted slower dryers to keep patrons occupied for 30 minutes or so while they worked on other customers. "I could have the greatest invention in the world," he says, "but if it doesn't sell, I'm a burden."

By Julia Flynn Siler in Chicago



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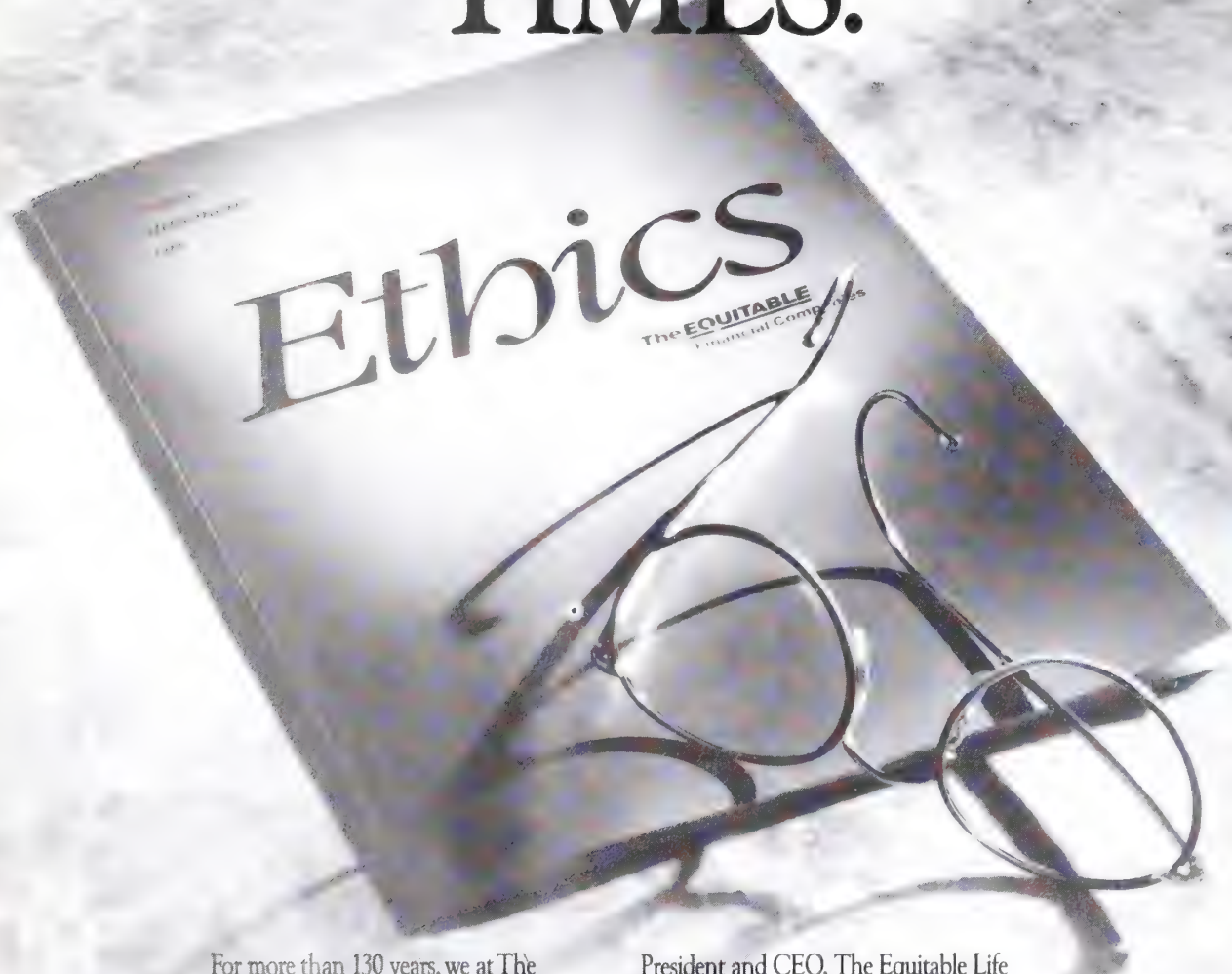


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KILLER VIRUS LEADS FOR THE CABBAGE PATCH



With the growing public aversion to chemical pesticides, scientists are redoubling their efforts to find gene-spliced alternatives. So far, most of the research has focused on genetically altered bacteria or plants. Scientists have avoided viruses because of fears they might spread into the environment.

Later this month, however, researchers from the Boyce Thompson Institute for Plant Research at Cornell University will release the first pesticide that is a genetically altered virus. The plant virus, which is harmless to humans and other vertebrates, is designed to kill the cabbage looper, a green caterpillar that plagues a dozen vegetable crops, including cabbage, broccoli, and beets.

In the Boyce Thompson test, the virus has been deliberately disabled so that it cannot survive in the environment. It lacks a gene for a protective coating, and without it can only live a few days. The scientists will monitor the cabbage patch through 1991 to determine just how long the disabled virus remains in the environment. If all goes well, the next step is to add genes to the virus to make it a more potent insecticide.

TEACHING NEURAL NETWORKS TO EXPLAIN THEMSELVES

Like humans, computer-based neural networks make decisions based on past experience rather than by following a rigid series of instructions. But neural nets often can't "explain" why they arrived at a given decision. That limits their usefulness, if only because many people find it hard to accept answers from a computer—even one built around circuits that mimic the brain—without understanding the conclusions.

But later this year, San Diego-based HNC Inc. will introduce software that extracts an audit trail of a neural net's decision-making process. Based on a pair of patents licensed from Stephen I. Gallant, a professor at Northeastern University, the software also can be used to prod a neural net into taking the next step: creating a set of "if-then" rules for reaching decisions in similar situations or applications. Thus, people with little or no background in computer programming will be able to throw examples of a type of problem at a neural net and, when it cracks the problem, use the network's reasoning process to generate a traditional computer program that functions as a so-called expert system.

BREAKTHROUGH IN MAKING METALS TOUGHER

Metallurgists have long sought ways to treat metals to improve their corrosion resistance and strength. One technique involves creating alloys on the surface by blasting them with ions of other elements. But that so-called ion implantation affects only a very thin layer.

Now, a Chinese scientist has developed a new surface-alloying method that produces alloys that are at least 40 times thicker than those created by conventional ion implantation. Zhong Xu, director of the Research Institute of Plasma Surface Metallurgy at the Taiyuan University of Technology, uses plasmas of hot gas in a vacuum both to vaporize the alloying metal and to heat the metal that is being treated.

The so-called Xu-loy process can create a stainless steel layer on cheaper carbon steel. It can also make high-strength surface alloys using metals such as molybdenum or tungsten. Plaur Corp. of Columbia, S. C., which owns patent rights, is developing the process for a wide variety of possible markets, including aerospace, automotive, chemical, marine, and defense applications. The inventor recently arrived in the U.S. for a stint as technical consultant to the company.

LOGIC CIRCUITS THAT REMEMBER, EVEN WHEN THE LIGHTS GO OUT

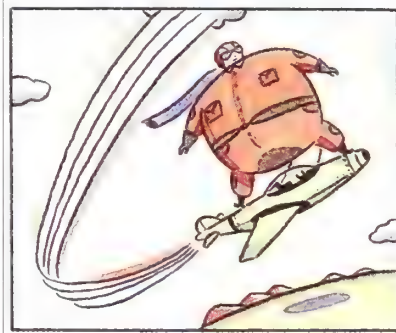
The first commercial ferroelectric microchip hit the market in mid-July—but it wasn't, as had been expected, a computer-memory chip that retains its contents even when the power is flicked off. Instead, Krysalis Corp.'s initial mass-produced design is a so-called logic circuit.

Like the memory chips that Krysalis and rival Ramtron Corp. are working on, the ferroelectric logic circuit doesn't forget when the lights go out. Its "flip-flop" switch settings will survive for up to a year of hibernation. That means electronic systems can pick up exactly where they left off when the equipment was shut down or the power failed, says the Sunnyvale (Calif.) company.

The key to ferroelectric chips is a superthin ceramic film that is laid down on a silicon or other semiconductor base. Transistors and micro storage cells carved into this ceramic not only are unaffected by a loss of power but also generate much stronger signals. That will enable ferroelectric memories, dubbed FRAMS, to be shrunk to tinier dimensions than is possible with conventional semiconductors. As a result, market researcher Dataquest Inc. believes that ferroelectric chips will soar to a \$350 million market by the early 1990s.

PROTECTING FIGHTER PILOTS FROM G-FORCES

Other than enemy aircraft, the biggest risk facing jet fighter pilots is the threat of passing out at the controls. That's because today's highly maneuverable fighters can throw pilots for a loop. In fast turns, pilots experience G-forces up to nine times the normal pull of gravity.



An advanced flight suit, though, may soon make their job safer. The Combat Edge system, developed at Brooks Air Force Base in San Antonio, can reduce by half the severe gravitational forces on jet pilots. It relies on a special helmet and breathing pressure regulator that forces air into the pilot's lungs against the pressure of gravity. That, combined with a pressurized vest that presses on the chest and back, maintains a normal flow of blood to the brain. The new suit will be ready by the fall of 1990.

HIGH NOON FOR SUN

CAN CEO McNEALY REBUILD ITS MOMENTUM IN WORKSTATIONS?

Scott McNealy has seen worse times. Take 1976. After being rejected by both Harvard and Stanford business schools, he signed on as a foreman at Rockwell International Corp.'s truck-hood plant in Ashtabula, Ohio—just as it was building up inventory in anticipation of a strike. Two straight months of 14-hour days left him hospitalized with hepatitis. "No beer for six weeks," he recalls. Then there was his inauspicious debut at his current job, chief executive of Sun Microsystems Inc., in 1984. The first month, Sun lost \$500,000 on \$2 million in sales, 70% of the computers it made didn't work, and one of its three co-founders quit. "That was adversity," McNealy says.

The difference today is that everyone's watching. In the past five years, McNealy, 34, has rocketed to computer industry stardom. Sun became the dominant player in engineering workstations, the high-powered personal computers used mostly for technical work. Along the way, it mushroomed into a \$1.8 billion, 10,300-employee multinational. McNealy's seemingly flawless management made Sun the talk of Wall Street and Silicon Valley. Industry watchers began to wonder: Could it keep growing without the type of gut-wrenching crisis that once stalled Apple Computer Inc. and nearly every other upstart?

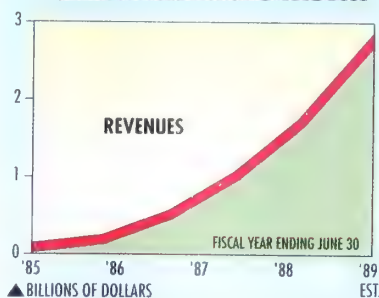
It couldn't. This spring, Sun finally stumbled. A week after its biggest new-product rollout ever, McNealy's right-hand man, Bernard J. Lacroute, abruptly resigned as executive vice-president. Two months later, his chief financial officer left for a higher-paying job at Apple. Amid these defections and those of lower-level managers, glitches in a new companywide computer system temporarily shut down operations and led to massive manufacturing delays. So after a sixfold increase in profits since 1986, Sun is likely to report a loss for its fourth quarter, ended June 30. Its stock now trades at 17, down 26% from its high of 23 in May. Wall Street analysts have yanked their buy recommendations

and short sellers have swooped in. "Sun's not pulling rabbits out of the hat anymore," says Robert G. Herwick, an analyst with Hambrecht & Quist Inc.

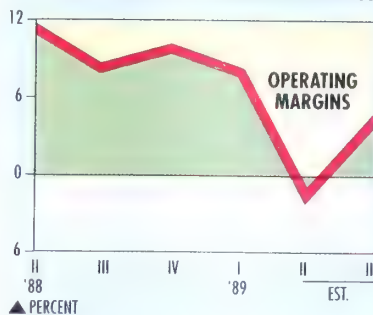
Suddenly, Sun's fresh-faced CEO has to prove he can manage in a crisis. His company's concept of computing—linking powerful microcomputers in high-

speed networks, rather than having many workers share a minicomputer or mainframe—has caught on. Indeed, analysts think workstation networks will become the dominant style in the 1990s, not just for engineers, but for millions of office workers. That gives Sun an enormous opportunity. But it also means

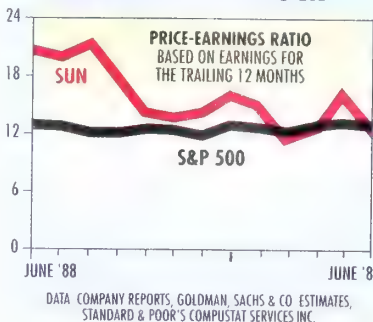
SUN IS GROWING FAST...



...BUT PROFITS ARE DOWN...



...AND SO IS ITS STOCK



**McNEALY: DISCIPLINE
IS THE NEW BYWORD**

at IBM, DEC, Hewlett-Packard, and every other major computer maker is focusing on workstations, too. So McNealy has no leeway to quietly tinker with Sun's internal problems. He has to keep improving his technical, manufacturing, and marketing teams to stay ahead.

CRITICAL MASS. The growing pains are afflicting Sun at a sensitive point in its controversial strategy. Knowing that he could eventually face more competition, McNealy's aim has been to grab market share fast. Two years ago, he initiated a risky plan to make Sun's hardware design—built around its home-grown Sparc microprocessor—a third standard for desktop computers, alongside IBM's Personal Computer and Apple's Macintosh. Getting a late start, and lacking the clout of Apple or IBM, McNealy played the only hand he had: He invited other computer makers to clone Sun's machines, hoping that the clones would build up the volume of machines based on Sun's chip so that software developers would write programs for Sparc,

which would help sell more machines.

So far, the strategy's success remains in question (page 75). A half-dozen major computer makers have said they'll use Sparc, but none has produced a Sparc-based machine. If Sparc fizzles, Sun could be left with oddball technology. Or if too many clones appear, it could find itself on the losing end of a price war.

McNealy has more immediate concerns, though. In 1985, in his haste to build market share, he began creating autonomous divisions to develop products and market them. The structure let Sun move quickly into new markets such as government agencies and universities. It also helped it respond instantly to challenges—as in 1986, when rival Apollo Computer Inc. ate into Sun's biggest market, workstations used by programmers. Sun threw a special team at the problem and retook the lead. "Sun wins because they don't have preconceived notions about what can't be done," notes Franklin H. Moss, former Apollo vice-president for software development.

But by last year, flexibility had turned to chaos. The autonomous groups produced duplicate work. That kept Sun's development costs at nearly 14% of sales, vs. an industry average of 9%. Turf wars turned nasty. When the company tried to consolidate 15 fragmented customer-support units, says a former vice-president, the resulting fray "was like ICBMs flying across the DMZ."

'WHAT A LOAD.' This spring, McNealy finally streamlined—in spades. He boiled the company's seven development units down to two and doubled his share of the management load. Though he's looking for a new CFO, he now oversees engineering and manufacturing—the jobs Lacroute did. "Now we'll see if the frat boy can run a \$2 billion company, engineering and all," says a former Sun software manager. "He may surprise us—but, man, what a load." McNealy counters that the reorganization pushes routine decisions down to lower-level managers, allowing him to fly solo and still direct corporate strategy.

McNealy may be better equipped for the job than his doubters think. Although he's not a technical whiz like Apple founder Steve Jobs or Microsoft Corp.'s Bill Gates, he has been exposed to the kinds of challenges Sun faces. Growing up around Detroit, he studied at the elbow of his father, William, who was vice-chairman of American Motors Corp. As a teenager, he kept an ear to his father's business chatter on the golf course with Motown executives such as Lee Iacocca. Evenings at the McNealy home often found Scott and his dad studying internal AMC memos and debating strategies to save its crumbling passenger-car business.

The boardroom battle that led to the elder McNealy's corporate demise taught the son lessons, too. The younger McNealy, who got into Stanford's MBA program on his third attempt, was made Sun's chairman in 1984. From the beginning, he made sure not to surprise his board. He usually begins meetings with a litany of potential bad news. So now his directors are giving him a chance to work through Sun's problems. "Scott's getting dirt under his fingernails, and he's incredibly competent," says Robert M. Kavner, a Sun director and president of the Data Systems Group at American Telephone & Telegraph Co., which owns 16% of Sun. Insiders speculate that he's driven to match the record of his business idol Kenneth H. Olsen, the entrepreneur who founded Digital Equipment Corp. and has run it for 32 years. "He's really stuck with it," says McNealy.

McNealy blossomed at Cranbrook, a prep school north of Detroit. A model student, he was voted outstanding musician (on the clarinet), captained the championship tennis team, and played





"We have to walk very carefully now"

Bill McNealy

Vice-president for entry systems

When AT&T asked Sun to help develop a new version of Unix, Sun executives figured they would get an edge over other suppliers of Unix computers. But McNealy didn't anticipate the backlash. IBM, DEC, and a half-dozen other computer makers banded together to promote their own version of Unix as a standard. That put Sun in direct competition with industry leaders—sooner than it wanted.

DRAWING CARD. McNealy has compensated by playing the role of upstart, taking every opportunity to thumb his nose at the industry's old guard. Like Jobs, McNealy tends to be a zealot. Visitors to his Mountain View (Calif.) office are treated to diatribes about the inevitable success of his plan. "It's unstoppable," he bellows, furiously x-ing out the initials of giant competitors on a whiteboard.

A Harvard economics graduate, McNealy wound up in Silicon Valley in 1978 when he finally got into Stanford. By 1981, he was director of manufacturing at Onyx Systems, a now-defunct minicomputer maker. Assigned to iron out serious quality problems, the 26-

days most weeks, leaving little time to enjoy his rewards, including Sun stock worth \$30 million.

McNealy's frenetic pace also has its downside—what insiders call "Sunburn." Like their boss, Sun managers tend to bite off more than they can chew. "We put too damn much stuff on our plate," McNealy concedes. Until this spring, Lacroute helped Sun get away with that. An engineer for 14 years at DEC, he has a reputation for shaving slack out of development schedules. "For years, Scott has been pushing the envelope because he knew there was a tough task master who could execute," says David F. Marquardt, a former director. But the pressure took its toll. Lacroute has joined the Kleiner Perkins Caufield & Byers venture capital firm, presumably to find his own company to run. Still Sun director, he declines to comment on his reasons for resigning, though friends say he was tired of the internal chaos.

Indeed, Sun's hasty grab for market share has created dozens of problems. Investments that should have been made in customer service and data processing were deferred. The independent product divisions created a nightmare for manufacturing and sales. More than 10,000 combinations of Sun computers and o-

golf and ice hockey. Between sports and the rivalry with two brothers and a sister, "Scott developed a strong self-image and a sense of competition," says Alan DeClerck, a high school chum and now a Sun salesman. "Everything he does turns into a team sport."

Indeed, team spirit is the byword at Sun. Most decisions are the result of consensus-building. And even though the CEO has strong opinions—and demands the same from his managers—he has the sense to give in when the tide is against him. Last year, when rising memory chip costs threatened Sun's margins, he argued to hold the line on prices to preserve market share. But he finally yielded to the consensus and Sun raised some prices—without losing sales. His brother Bill, a St. Louis architect, figures the consensus approach may be a reaction to life with father, which he recalls as "a totalitarian state." He adds: "We both have some instinct to bring other people into decision-making."

That penchant has created its own problems, however. McNealy has a hard time saying no to an exciting opportunity that the group backs. That led to one of his biggest gaffes: the landmark deal with AT&T. Struggling to establish itself in computers, AT&T saw that Sun was doing a brisk business selling a version of its Unix, the basic software, or operating system, that engineers prefer.

ter than to bark orders at his staff. So he peppered employees with questions about work rules and production bottlenecks until they saw for themselves how they could work more efficiently. "Without exerting authority, Scott turned the place around in two months," says Doug Broyles, his boss at Onyx and a former Sun director.

Such skills were a valuable drawing card in 1982 when two former Stanford classmates, designer Andy Bechtolsheim and engineer Vinod Khosla, asked McNealy to start Sun with them. He became director of operations. And two years later, when Sun's president left in a dispute with the board, McNealy's rapport with fellow workers came in handy again. Partly on that basis, Sun's directors chose him as CEO over Paul Ely Jr., a seasoned Silicon Valley executive who is now executive vice-president of Unisys Corp.

But McNealy also has a gruff side. He demands loyalty to Sun and is irate when he's let down. Exit interviews are remembered for "the abuse he dishes out," says one former manager. "He takes it as a personal affront." A bachelor, McNealy works seven

"Times may be tough, but we're still out-engineering 'em"

WAYNE ROSING

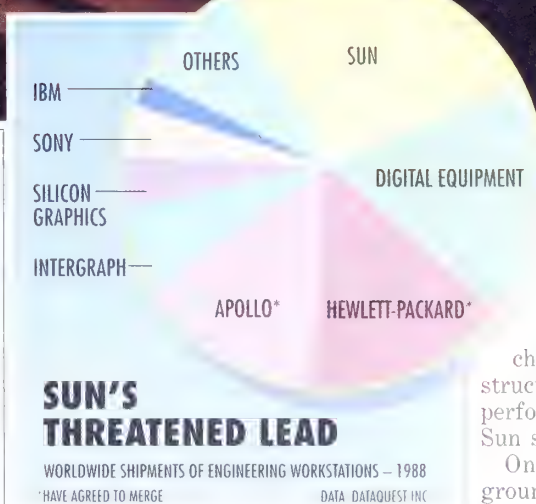
Vice-president for entry systems



SPARCSTATION T1
DEC ALREADY
OFFERS A
CHEAPER RIVAL

ns to build and sell. The company also owned three product lines based on different microprocessors—Sparc, Motorola's 68000, and Intel's 80386. Sun has a triple investment to make all of them communicate on the same network. Worse, the lines compete. "Sun has become its own worst enemy," says Dataquest Inc. analyst David Burdick. Meantime, divisional overlaps in marketing and finance have turned forecasting into a mystical experience. While Sun was small, its managers could scramble to meet shipment targets at the last minute. But as a big company, everything we do now is like flying a person in a jet at treetop height," says Crawford W. Beveridge, vice-president of corporate resources. "You can't afford to make mistakes."

MAJOR GAS PAINS. In April, Sun came close to crashing. Several divisions announced new products at once—six in all. The risks in trying to coordinate all the manufacturing, software, and marketing details were obvious, but Sun's bravado prevailed. "We were heroic so many times in the past, we thought we could do it again," says Carol Bartz, vice-president for customer service. "But we couldn't." Sun's Milpitas (Calif.) plant, already shellshocked by the conversion to a new order-processing computer, couldn't cope. Production came to near-halt for five weeks. There were



too few parts for old products, which continued to sell better than expected, and suppliers couldn't deliver components for the new models fast enough.

When the dust cleared, Sun announced on June 1 that shipping delays would likely produce a loss for the quarter ended June 30. Analysts estimate the deficit was about \$4 million, chopping fiscal 1989's annual profits to \$69 million, nearly flat with last year's, on a 71% increase in sales. Fearing that the problems will linger, many analysts have cut 1990 profit forecasts by 17%, on average, to \$110 million, on \$2.8 billion in sales. Perhaps worse, Sun made deep discounts to major customers to get rid of old models—in the process alienating dealers who resell its workstations into specialty markets. "Sun caused us major

gas pains," gripes W. Douglas Hajjar, president of Valid Logic Systems Inc.

Sun says its orders are now stronger than ever. But if it can't meet demand, McNealy's strategy could suffer. Sparc is only one of several competing chips that use RISC, or reduced instruction-set computing, which boosts performance over conventional chips. If Sun slows, Sparc could lose its appeal.

On paper, Sun has already lost ground. In a blow last April, Hewlett-Packard agreed to purchase workstation maker Apollo. That gives HP a 30% share of the \$4.3 billion market—vs. Sun's 27%. In addition, increasingly powerful PCs are poised to challenge Sun, once they get Sun-like networking and graphics software. "Sun can't afford to slip again," warns Herwick at Hambrecht & Quist. "You lose market share over problems like this."

That's why McNealy is trying to idiot-proof Sun's new organization. Since May, he has centralized marketing, finance, and other staff functions. William J. Raduchel, one of McNealy's undergraduate professors at Harvard whom he hired last year as vice-president for corporate planning, is using the budget process to force the company to coordinate its development efforts.

To eliminate overlaps, a 10-page docu-



"We were heroic so many times in the past, we thought we could do it again. But we couldn't"

CAROL BARTZ

Vice-president for customer service

ment now describes precisely who has responsibility for each of about 200 routine operating tasks. R&D has canceled three overlapping hardware projects and shelved some of Sun's less urgent ideas, such as building a laptop model. Controls also have been put on hiring, which soared nearly 50% last year.

CLONE INVASION. For now, McNealy says, his priority has to be raising profits to boost Sun's stock price and raise additional capital. A deal that former CFO Joseph A. Graziano cut with AT&T last year helped postpone the day of reckoning: The phone giant agreed to buy 15% of Sun's shares, at a 25% premium to the market price. With Graziano's resignation, however, \$200 million of a proposed \$340 million debt package he was negotiating with institutional investors fell through. That forced Sun in June to sell more stock to AT&T sooner—and at a lower price—than planned. So far, AT&T has pumped \$235 million into Sun, and now Sun has only 4% of the original stock to sell to AT&T.

But Sun's growth requires still more cash—it is burning through \$100 million per quarter. To raise more debt or equi-

ty at favorable rates, McNealy figures he has to get margins back to at least 11%. But analysts don't expect to see that until next year at the earliest.

Yet McNealy isn't giving up on growth. As he learned from his father and AMC, a company with too little market share is condemned to skating "on the hairy edge of not quite having critical mass." That makes McNealy impatient and dissatisfied with Sun's rank as No. 10 in computerdom. "Who's the tenth-biggest U.S. auto maker—Tonka Toys?" he says. He sees continual development of leading-edge products as the way to keep cloners and major computer makers from limiting Sun's options. If Sun doesn't build margins now, says Mark F. Stahlman of Sanford Bernstein & Co., "it may never get the chance to increase profitability again."

Sun is already feeling price pressure. SparcStation 1, its flagship desktop that starts at \$9,000, was introduced in April, boasting comparable speed and fancier graphics for 25% less than a DEC workstation based on a competing RISC chip. But on July 11, DEC countered with a workstation that costs \$1,000 less than

the SparcStation 1 and, DEC claims, more powerful. The \$13 billion minicomputer maker also brought out a workstation it says has 35% more power than Sun's top-end SparcStation 370. "This is war," says analyst Marc G. Schulman of UBS Securities Inc. "They're after Sun."

So far, the damage has been slight. A June survey of workstation buyers by Technology Research Group indicates that 65% of HP, DEC, and Apollo customers plan to evaluate or buy Sun machines this year—far more than the other way around. "Times may be tough but we're still out-engineering 'em," boasts Wayne Rosing, Sun's vice-president for entry systems.

Still, the game is changing rapidly. As the market for workstations expands from engineers to office workers, Sun's marketing style may not help. Commercial buyers are less interested in getting absolutely the most computing power for the dollar than in solving specific business problems. That's where the big boys—IBM, DEC, and HP—excel. Sun's field maintenance organization is weak and the company has been particularly bad about supporting its own software. Customers complain. Until recently, sniffs Deepak K. Goel, an engineering manager at Ford Microelectronics Inc. "Sun never seemed to care much what happened to customers."

SPARC PLUGS. Sun wants to fix that without spending too much. "We don't intend to build a dinosaur service group," says Bartz, noting that profit margins on aftersale service have been dropping for major computer makers. Starting later this year, Sun plans to begin dispatching third-party service engineers who will look to clients as if they belong to Sun. The company will train them and customers will call Sun for service.

Marketing is also getting revamped. Sun has doubled its budget to encourage software developers to write for Sparc. And it is teaming with resellers to crack specific accounts. With every major competitor preparing to sell the same RISC Unix technology, Sun's marketing will have to shape up, or Sun could lose out. "We have to walk very carefully now," concedes Edward J. Zander, Sun's marketing vice-president.

The new drills sound a bit out of character for Sun. But McNealy thinks the customers and employees will adjust. "Discipline," he insists, "is not a stuffy word." If his message sinks in, Sun has every chance of emerging healthy from its recent troubles. When it comes to those, 1989 may not compare with 1979. But it already has been a year of lessor that Scott McNealy won't forget.

By Jonathan B. Levine in Mountain View, Calif., with bureau reports

CLONEMAKERS DON'T SCARE SUN— IT'S SENDING THEM ENGRAVED INVITATIONS

It seems like an odd way to do business: Develop a hot new product. Then look up your potential competitors, everyone from AT&T to the entire nation of Japan. Invite them to compete with you. And to sweeten the offer, sell them your technology. What's going on here?

Call it Sun Microsystems' version of empire building. Scott McNealy, Sun's pragmatic young chairman, makes a basic assumption: Only the big will survive. One obstacle to bigness, for Sun or any computer upstart, is software.

Without it, computers won't do much and no one will buy them. But not many software companies will go out on a limb and write programs for machines that don't already sell well.

So McNealy is trying desperately to get the ball rolling. Almost anyone can license Sun's basic software and Sparc, the superfast microprocessor that is the brain of its flagship workstation—a \$9,000-and-up desktop machine that packs the power of a minicomputer. If enough manufacturers build Sun clones, the software companies will have to take notice. In the end, everyone will prosper. And Sun's Sparc workstation—it makes six other models—will become a desktop standard alongside 35 million IBM-style PCs and nearly 3 million Macintoshes from Apple Computer Inc. Unless the licensees overwhelm Sun, of course, which has sold fewer than 30,000 Sparc units since 1987.

GOING ALONG. How's it going? In a word, slowly. Early last year, Sun herded Sparc endorsements from AT&T, Unisys, Xerox, and others. But so far, only startup Solbourne Computer Inc., backed by Japan's Matsushita Co., has put a Sparc clone on the market. In fact, one Unisys Corp. division said in July that it would use Motorola Inc.'s 68000 chip, not Sparc, in a major new product line, though it hasn't written Sun off. American Telephone & Telegraph Co., which owns 16% of Sun,

says it won't have a Sparc machine until the 1990s. Says Robert M. Kavner, president of AT&T's Data Systems Group: "It's not a religious issue with us."

Even in Taiwan, the land of clone-makers, Sparc hasn't been a sure sell. Last summer, Sun approached a consortium of six Taiwanese PC makers. But it demanded conditions: It wanted to reserve the most powerful, high-profit workstations for itself, leaving only low-end machines for the clone-makers. Then Microsoft Corp. Chair-

In May, moreover, Sun signed up Japan's Toshiba Corp. to bring out low-cost Sparc machines early next year. Seiko Instruments plans to unveil a Sparc workstation this fall, and Fujitsu Ltd., one of five companies that make the Sparc chip for Sun, is free to jump in any time. The Japanese are keen on Sun because they see workstations as their best chance in the U.S. desktop market after largely failing in PCs.

It's primarily the prospect of Japanese competition that has unnerved Wall Street. For one, some Japanese

licensees are low-cost leaders in memory chips, color displays, and other components that could help them undercut Sun. Solbourne, for example, plans to introduce by the end of the year a high-speed clone based on Matsushita chip technology that could challenge Sun's technical leadership.

Critics argue that clones could hurt Sun as they have IBM: Of the IBM-compatible PCs sold last year, 68% were clones. But McNealy will take the chance: "IBM grew a \$7 billion PC business in spite of the clones. Hurt me with that problem," he pleads.

Sun argues that the Japanese don't have good distribution channels in the U.S. and that by the time they arrive, Sun will have improved its own technology anyway.

"The strategy is debated inside the company," says Kohei Amo, president of Sun's Japanese subsidiary, which already faces stiff competition from some two-dozen native companies authorized to resell Sun computers locally. "Not everybody agrees." But that's becoming a moot point. Until recently, Sun chose who it would let compete. But last spring, when potential cloners resisted negotiating with Sun, a potential competitor, it turned over licensing authority to outside companies. Now all Sun can do is watch as the competition develops.

By Jonathan B. Levine in San Francisco and Neil Gross in Tokyo, with Dori Jones Yang in Taipei



SUN JAPAN'S AMO: "NOT EVERYONE AGREES" THAT CLONES WON'T POSE A THREAT

man William H. Gates got wind of the talks and lobbied against Sun: More than 10% of the world's PCs are built in Taiwan, most of them IBM clones that use Microsoft's software. So far, only Tatung Corp. and Datatech Enterprises Ltd. have signed with Sun.

Still, McNealy is making some headway. More than 650 programs are written for Sparc—more than the total for four other chips that compete with it. Most of these are technical programs, but office software is on the way. Lotus Development Corp. is readying a Sparc version of its 1-2-3 spreadsheet for 1990. Ashton-Tate Corp. is expected to do the same for its dBase IV data-management program. "We think Sparc has the chance of being one of the biggest markets in the business," says Franklin H. Moss, Lotus' vice-president for network software.

COMPUTER MAKERS ARE BLUE—BUT NOT IBM

It's fighting an industry slump with a tough sales strategy

The computer industry is in a slump, and IBM is the only major manufacturer that isn't. The company's major product lines, eliminating staff work into sales. Now, roll. "IBM put the fear of God in their sales force," says Stephen Cohen, an an-

McGraw-Hill analyst Michael J. Raimondi. But he thinks the increase could drop to 1.6% in 1990. He adds that spending will grow faster in 1991—if the overall economy picks up.

The way IBM got its gains shows how soft things are. "They did whatever it took to close a deal," says analyst Stephen Dube of Shearson Lehman Hutton Inc. Mainframe competitors and leasing-industry executives say that IBM offered

IBM's new minicomputer, the AS/400, have caused problems for competitors, too, by stanching desertions from Big Blue. In fact, the AS 400 is said to have sold so well that IBM is rumored to have had trouble finding enough technicians to install it. Analysts say sales of the machine are slowing, but rivals, particularly Digital Equipment Corp., are licking their wounds. DEC is expected to report flat U.S. sales for the year ending June 30 and an 18% drop in overall profits, to \$1.075 billion.

HOLDING STEADY. IBM's second-quarter zeal had a less direct impact on major makers, though IBM says its PS/2 posted a 40% increase in domestic sales through dealers and other resellers vs. the year earlier quarter. Apple Computer Inc. told analysts its biggest problem for the quarter—one that will hurt profits—is that it underestimated demand for its products, such as the new MAC II. Compaq Computer Corp. says its market

share is holding steady and that it doesn't believe IBM's PS 2 sales figures. "There's no support for those numbers," says Michael S. Swavely, president of North American operations at Compaq, who says research shows IBM has lost ground in dealer sales. But other research appears to back IBM's claims of some improvement: Dataquest Inc. expects Big Blue's U.S. PC market share to rise to 13.5% of units sold in 1989, from 12.4% share.

The question now is whether IBM can keep its sales ball rolling. Analysts question, for instance, whether main-

THE YEAR OF THE MINI-SLUMP

Revenues and profits for some major computer and software companies (millions of dollars)

		1988			1989		
		1Q	2Q	1st half	1Q	2Q	1st half
AMDAHL	Profits	\$42.6	\$52.8	\$95.4	\$45.6	\$36.0	\$81.6
	Revenues	367.7	411.3	779.0	470.3	508.0	978.3
APPLE	Profits	59.8	91.3	170.9	56.4	93.5	149.9
	Revenues	567.2	993.0	1,860.2	1,246.9	1,310.0	2,556.9
DEC	Profits	305.1	401.0	706.1	256.0	345.0	601.0
	Revenues	3,314.0	3,339.0	6,163.0	3,125.0	3,500.0	6,625.0
HEWLETT-PACKARD	Profits	202.0	192.0	394.0	203.0	215.0	418.0
	Revenues	1,478.0	1,478.0	4,930.0	1,478.0	3,000.0	5,864.0
IBM	Profits	933.0	964.0	1,897.0	950.0	1,409.0	2,359.0
	Revenues	12,058.0	12,411.0	25,469.0	12,730.0	14,800.0	27,530.0
MICROSOFT	Profits	37.3	30.0	67.3	41.1	42.5	83.6
	Revenues	1,478.0	1,478.0	4,930.0	1,478.0	3,000.0	5,864.0

July 18 that its second-quarter sales rose about

and overhead that's still

ness—three points above normal. The company even may have done a bit better in the U.S., where

revenues dropped 11% be-

that's largely slowing the

Ascent-Tate, Microsoft, Wang, and

the industry since it sells most manufacturers' key software, that it lost up to \$1 million for the period vs. a year-

DISCOUNT DRIVE

explained for its downturn, but there

the U.S., partly because of fears about

quantity discounts were deeper. "IBM's more aggressive than I've ever seen them," says Kenneth Pontikes, chairman of leasing company Comdisco Inc.

The tough sales strategy played havoc with IBM's mainframe competitors. Amdahl Corp., for instance, has warned Wall Street that its second-quarter profits fell by as much as 35% despite a revenue increase of as much as 20%. Chalk that up to Amdahl's discounting in response to IBM's price cuts. And analysts who once predicted second-quarter profits of up to 40¢ a share for Unisys Corp. think it could show an operating loss. Unisys executives blame slow demand, though the pressure from IBM's aggressive pricing didn't help.

frame demand is sufficient to sustain momentum through 1989. The push for log mainframe orders in the second quarter may also have stolen sales from the second half. Still, IBM is due to deliver mainframe upgrades, usually a salient tonic, in September. Year-end sales could also be helped by new mainframe drives, due this summer.

So for the moment, the head rollers IBM have issued a stay of execution. For how long? That depends on when customers open their purses again, and that depends on how the economy fares. But the always helps. But not even IBM's mighty sales force can prop up an industry that's bent on slowing down.

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A Florida real estate developer and the local phone company are working with Northern Telecom to offer America's first home ISDN service over optical fiber.

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WHAT IF LEONA LEAVES THE PALACE FOR THE POKEY?

she's convicted and jailed, Helmsley Hotels could flounder

WEEK in and week out, her smiling face appears in magazine advertisements across the country. She is the self-styled queen of the hotel world, promising guests fluffy towels, extra pillows, vanity mirrors, and first-rate service. But on July 5, the day after her 69th birthday, Leona Helmsley stepped into less-than-regal surroundings: a courtroom in lower Manhattan, where 300 people had come to see her stand trial on federal charges of evading roughly \$1 million in taxes. The charges are not pretty. The government alleges that Helmsley evaded personal income taxes by disguising as business expenses some \$4 million in vacation costs at her estate in Greenwich, Conn. Among the allegedly phony items listed in the indictment is \$1 million for an enclosed swimming pool and marble dance floor—described on invoices as construction work at Helmsley-controlled commercial buildings. Helmsley is charged with extorting kickbacks from suppliers, too, and jurors have already heard testimony about cash-stuffed envelopes being dropped off by pur merchants for Helmsley.

Leona's husband, Harry B. Helmsley,

80, was also indicted but has been declared unfit for trial because of memory lapses. Now, Leona faces an ordeal that could last three months and end in a jail sentence if she's convicted.

More than Helmsley's personal fate hangs in the balance. Leona and Harry, whose personal net worth is roughly \$1 billion, control an empire valued at \$5 billion. Helmsley-Spear Inc. of New York manages about 600 properties and has annual revenues of around \$1.1 billion. Helmsley Hotels Inc., of which Leona is president, includes six luxury New York hotels and Harley Hotels Inc., a chain of 17 hotels in 10 states.

Of all the Helmsley businesses, the hotels would be most directly affected by a conviction. Leona leaves much of the hotels' operations, such as labor negotiations and hiring, to underlings. But former executives say she is very active in day-to-day management, cost-cutting, marketing, and quality control. She lunches in a different hotel

every day to monitor the food. And thanks to the company's widespread ads, with such slogans as "the only palace in the world where the queen stands guard," her slavish attention to detail is well-known to customers, who have come to identify her with the Helmsley hotels.

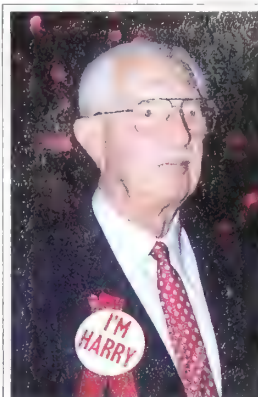
Some in the industry speculate that, if Leona goes to jail, Harry might be persuaded to sell some of the hotels since neither Helmsley has children who could take over. In the past few years, the Helmsleys have sold off four of the more modest Harley properties. With interest in the New York hotel market soaring, particularly among foreign investors looking for a major presence in the

U.S., the Helmsley Palace alone would probably fetch \$500 million, experts say. The Helmsleys and company representatives declined to be interviewed.

'ABRASIVE.' Helmsley's lawyer, Gerald A. Feffer, has already begun preparing the jury for the worst. In opening arguments, he conceded that she was known for being "rude" and "abrasive" to employees, and he described her as a "tough bitch." His point: Although many people may not like her, that doesn't mean she's guilty. Part of Feffer's plan is to pin the alleged scheme on Frank Turco, the former chief financial officer of Helmsley Hotels, who is also on trial. And the lawyer can make at least two appeals to logic. Why, he will ask, would Helmsley fire employees or refuse to pay contractors who were privy to her alleged invoice scams? And why would a couple who paid \$57.8 million in taxes over three years risk spending time in jail to save another \$1 million or so?

Only the jury can answer. But former associates describe Helmsley as a ruthless woman for whom thrift was paramount. In 1982, after her son from a previous marriage died of a heart attack, Helmsley sued her daughter-in-law to recover a ring that Helmsley claimed was a loan. She dropped the suit after her daughter-in-law produced a news clip describing the ring as a gift.

The hotel queen had four different surnames before becoming Mrs. Harry



HELMSLEY: BAD MEMORY

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BusinessWeek



Helmsley. Born Leona Mindy Rosenthal, daughter of a hatmaker, she grew up in a poor Brooklyn neighborhood. In 20 years, she went through two husbands, one of whom she married twice. After divorcing the second, she adopted the name Leona Roberts and became a real estate broker in the 1960s. Her talents as a hard-driving saleswoman drew notice from Harry Helmsley, who by the 1970s was one of the country's richest real estate barons. A quiet but sharp negotiator, he built his empire largely by buying properties with other investors' money and taking over the management of them. In 1971, Helmsley left his first wife of 33 years to marry Leona.

LOVEBIRDS. Prodded by his new wife, Harry began living more extravagantly, friends recall. He took a duplex penthouse with a swimming pool at his Park Lane Hotel and bought a plane equipped with a bedroom suite. The Helmsleys have since added a Palm Beach condo, a million-dollar retreat near Phoenix, and the 1 million, 26-acre Connecticut estate. They also won a reputation as lovebirds. "They were very kissy-kissy, lovey-dovey," says Mimi Panziner, Helmsley's daughter-in-law. "Leona would say: 'Look at his head. Isn't he gorgeous?'"

THE HELMSLEY EMPIRE

Helmsley Enterprises, the holding company for a host of real estate, hotel, and related enterprises, is controlled by Harry and Leona Helmsley and is valued at \$5 billion. The major components:

HELMSLEY-SPEAR With \$1.1 billion in annual revenues, the largest division of parent company. Operates real estate and insurance brokerage businesses, acts as managing agent for over 600 office and apartment buildings in New York, Florida, Texas, California, and other states. Most prominent property: the Empire State Building in New York

HELMSLEY HOTELS Operates six luxury New York City hotels, including the Helmsley Palace. The Harley Hotel division operates an additional 17 hotels and motor inns in 10 states

DECO PURCHASING Centralized purchasing agent for Helmsley hotels

OWNERS MAINTENANCE Cleaning-services company that holds contracts with many Helmsley-Spear buildings

DATA: BW

He would call her 'my darling Lee.'"

But associates didn't always share Harry's passion. A number of his real estate cronies clashed with Leona, and she helped push out some of his closest advisers. New York developer Samuel J. Lefrak claims Leona botched his proposed \$1 million donation to New York Hospital when she refused to let his name be inscribed over a doorway. Her husband's earlier \$33 million contribution gave the couple veto power on other donors' names appearing. "She wanted it all to herself," grouches Lefrak.

Technically, Helmsley could now face decades in prison, but judging from similar cases she will probably get no more than three years if the government wins its case. A conviction would also leave her open to civil lawsuits from investors in the properties from which the \$4 million was allegedly siphoned.

But for now, Helmsley is adopting a business-as-usual strategy. She still goes to her office on Fridays, when the trial is in recess, and the ads starring her keep running in national magazines. She is, after all, queen of the palace. And most queens don't abandon their thrones until they're forced to.

By Andrea Rothman in New York



With the way some facsimiles make you wait,

THE VOLVO TOURNAMENT BRINGS VERMONT TO THE NET

It's fighting to keep the lucrative tennis event at Stratton

Five years ago, James E. Westhall, the founding owner of the Volvo International Tennis Tournament, moved the competition from the Mt. Washington Hotel at Bretton Woods, N. H., to a ski complex near Manchester, Vt., named Stratton Mountain. But he had to volley hard with the Vermont resort to get permission, eventually giving up lucrative parking and concession revenues. In those days, the Volvo was one of the lesser-known stops on the tennis Grand Prix circuit.

No more. Professional tennis players came to love the Stratton Mountain event, and their enthusiasm has turned it into one of the hits of the tour. After many tournaments played in or near big

cities, the players can relax on the resort's golf course and enjoy country living with their spouses. More important, the Stratton tournament, which starts this year on July 29, is a perfect warm-up for the U.S. Open: Stratton has the same court surface, Decoturf II, as the National Tennis Center in Flushing, N. Y. Indeed, this is why Westhall moved the tournament from Mt. Washington, which has clay courts. Wimbledon, the main tournament preceding Stratton, is played on grass.

BETTER SEATS. Because top players such as Boris Becker (this year's Wimbledon champion), Michael Chang (winner of the French Open), and No. 1-ranked Ivan Lendl all play at Stratton, the crowds

are enormous. The place has been sold out for the past two years and is expected to sell out again this year.

But now Westhall is playing aggressively once again. The resort puts wooden bleachers every year to seat 11,000 for the tournament and then tears them down. This is no longer acceptable. Beginning in 1990, the Volvo must have a permanent facility, or it risks losing Association of Tennis Professionals sanction as a championship-level tournament. So Westhall wants a state-of-the-art stadium court with a minimum of 15,000 seats, a grandstand court alongside with at least 2,000 seats, and additional courts, six of which must be lighted. Stratton's new Japanese owners are willing to invest money in the site but not enough to meet the ATP requirements. This year's event is the last in a five-year contract, and Westhall says he will pick up his tennis balls and move if someone offers something better.

At stake is more than what Stratton stands to give up. While Vermont does a healthy winter tourism business from skiing, losing one of its few summer attractions could be devastating. Last year, the tournament generated \$46



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tion for the state's economy, according to an economic-impact study conducted by the University of Massachusetts Graduate School of Sports Management. Ticket takers, whose average yearly household income was \$101,551, spent an average of \$0.57 a day while attending the seven-day event. So now, the government in Montpelier is rallying. "We are going to do everything in our power to keep the tournament in Vermont," says E. G. Sulliton, Vermont's secretary of development and community affairs.

ND FLOAT. After 23 communities in the state expressed interest in having the tournament, Vermont Governor Madeleine M. Kunin established a commission to choose a site. Last week, the months of visiting, meeting, and studying resulted in a decision. The proposed site? None other than Stratton Mountain. The state would establish a regional author-



WIMBLEDON CHAMP BORIS BECKER: ONE OF VOLVO'S DRAWING CARDS

ity to run a new facility at the resort. To service the debt on the bonds that would have to be floated to meet Westhall's demands, the authority would raise room and meal taxes. Although the plan still needs legislative approval, little opposition is expected.

But it's not game, set, and match for Stratton yet. This spring, Pittsfield, Mass., weighed in with a multimedia presentation, replete with hors d'oeuvres

and wine served in specially made glasses with a tournament logo etched on the side. General Electric Co., which has a plastics research facility in Pittsfield, was host and partial sponsor of the \$100,000 pitch. "Getting an event like the Volvo would help us attract professionals to the city," explains Uwe S. Wascher, vice-president of GE's plastics group.

New Haven also wants the Volvo tournament, at a site near the Yale Bowl. This is

the only big city still in the running, and its chances look slim because much of the Volvo's success in the past five years is attributed to its bucolic setting. But New Haven has money that its rural competitors do not, and Westhall is pragmatic: "Vermont has been very good to us," he says, "but this has got to be a business decision." In other words, an ace can still take the cup.

By Robert B. Duffy in Manchester, Vt.

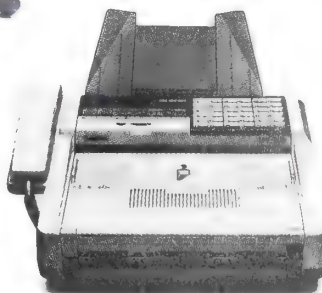


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Outdoors

GETTING YOUR FEET WET IN SAILBOAT RACING

It's become a common theme in many competitive sports: The more sophisticated your equipment, the more you'll win. Yacht racing is no exception. From majestic 80-foot maxis to tiny Sunfish, sailors are constantly seeking innovations.

But there's one class of boat that's bucking the trend. It's the International One-Design (IOD), a classic racer designed 53 years ago that has become a favorite of a growing number of sailors. Boats as old as IODs usually die out: These yachts are slower than newer designs, impossible to sail for more than a day, and not good for much else besides racing. But for traditionalists, "IODs are the old thor-

oughbreds of yacht racing," says Tony Leggett, vice-president for corporate finance at IMI Securities in New York, who has been racing IODs for the past five years. "They have a kind of classic beauty that makes you want to pay through the nose for the thrill of getting wet and beat up."

EQUALIZERS. In yacht racing, paying through the nose is a relative concept. In fact, racing is far less expensive with an IOD than with many other classes of boats. A new IOD costs about \$40,000 and about \$5,000 a year to maintain. Unlike other classes of boats, which have to adhere to only very general guidelines about hull length and rig to compete, IODs are built to precise

specifications, so that every boat in the class is essentially identical. Though each boat is custom-made, all IODs use standardized fittings and sails. Every IOD racer is permitted to buy only one new sail a year from a specified manufacturer so that every boat in the fleet competes with the same equipment.

That's why One-Design owners like to say that racing an IOD is more a test of skill than of purchasing power. Many famed America's Cup competitors started out racing IODs, among them Ted Hood and Bus Mosbacher.

An excellent way to start racing is by crewing on someone else's boat. A few weeks ago, I spent a day as part of

the five-person crew aboard an IOD in the World Championship qualifying races in Long Island Sound. I accompanied Erik Roede, the skipper of the Yellowcake and senior vice-president at Circle Line Tours. Roede is a descendant of Norwegian boat-builder Bjarne Aas, who designed the original IOD, which, unlike today's fiberglass version, was wooden. Like all IODs, the Yellowcake is 33½ feet long and has 455 square feet of sails.

BOOM-WARY. Because the race was strictly for amateurs, I didn't anticipate that the Yellowcake would move so swiftly and change tack so often. It was an unusual windy day, and the water, s

pros say, was very npy. We were racing against five other boats, and after four hours of raising and lowering the sails, filling water out of the hull with a hand pump, and innumerable cries of "Coming out!" we still came in sixth. But I managed to avoid getting on the head by the boom, so I'm ready to crew again.

Most boats are chronically short on crew members. So even if you don't know the difference between the boom and the horizontal pole at the bottom of the mainsail and the mast (the vertical pole that supports the sails and the boom), you shouldn't have trouble finding a boat that needs you. You can check out



LEARNING THE ROPES: CLUBS PROVIDE PRACTICE AND BASIC SAILING COURSES

the bulletin boards at a local yacht club or marine shop and peruse the advertisements in the back of sailing magazines for boats that are short on crew.

BARE BOATS. That's not to say you must learn to sail on an IOD. For a nominal monthly fee, a local sailing club will let you practice on a less ambitious boat with relatively simple rigging, offer some in-



struction, and provide a choice of sailing partners. Since most IODs are privately owned, chartering one for less than an entire season is almost impossible. But you can still charter other boats. A small "bare boat"—one with-

out a crew or supplies—starts around \$1,300 a week. Rates for "crewed" boats—which usually come with three pros and provisions—start around \$7,000.

Getting your topsiders wet shouldn't be difficult. The U.S. Yacht Racing Assn. in Newport, R.I. (401 849-5200), tracks most of the races in the U.S. and around the world. Major races this season include the Audi/Sailing World Regatta in Newport, Aug. 17-20; the Rolex International Women's Keelboat Championship at the Ida Lewis Yacht Club in Newport, Sept. 15-23; and IOD World Championships at the American Yacht Club in Rye, N.Y., during the second week of September. *Laura Zinn*

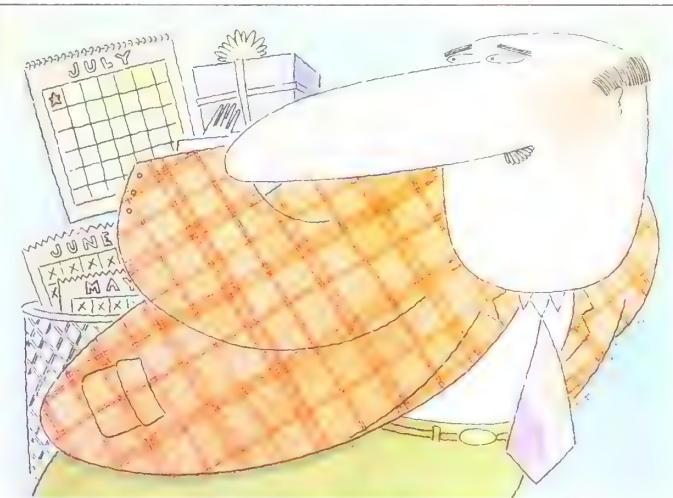
It's more blessed to give than receive, the saying goes. But lately, charities have been telling donors they can have it both ways, with plans that provide a charitable deduction and income for the givers now and a lump sum for the charities later.

One particularly popular vehicle: charitable remainder trusts. These irrevocable trusts are set up to pay the donor income for a certain period or for life; the asset then passes to the charity. There are two kinds: In an annuity trust, the donor receives a fixed dollar amount each year, which must be at least 5% of the principal. In a unitrust, the donor receives a percentage of the trust's assets each year; the income fluctuates with the trust.

A unitrust offers the potential for more income over the years, but the annuity trust offers a greater tax deduction in the front. Under IRS rules, a 50-year-old who sets up a \$100,000 annuity trust that returns 8.5% gets a \$21,072 deduction. A unitrust for the same amount would allow a 4,562 deduction, according to PhilanthroTec, a Charlotte, N.C. software company. The charitable deduction is based on the donor's age, in-

Tax Tips

GOOD DONATIONS, GREAT DEDUCTIONS



come, and the gift's fair-market value, which is derived from IRS valuation tables. As of Apr. 1, the table rates fluctuate monthly with prevailing interest rates. When setting up an annuity trust, donors can choose the rate of the current month, the preceding month, or the month before that. The higher the rate, the higher the deduction. Take a 50-year-old now setting up a \$100,000 trust with a 6.5% re-

turn. The July rate of 10.6% would give him a \$39,643 deduction, but May's 11.6% rate would give him \$43,485.

Since establishment fees can run as high as \$5,000, trusts make the most sense with gifts of at least \$50,000. For smaller gifts, there's the pooled income fund (PIF), suggests Jim Corlett, an IDS financial planner in Winston-Salem, N.C. The gift goes into what is, in effect, a mutual

fund that pays interest at a variable rate until death. While most funds invest in bonds for high income, an increasing number are balanced between bonds and equities.

Though conservative, PIFs are competitive: Those that invest in corporate and U.S. bonds are currently yielding around 9%. The deduction here is based on the donor's age and the fund's highest return over the past three years. The older you are, the larger the deduction. A 70-year-old giving \$10,000 to the Nature Conservancy's Long Term Income Fund (9% yield) could take \$3,822; a 50-year-old, only \$1,473.

PRIMARY MOTIVE. If you're giving cash, which allows a full deduction, then an outright gift might be better. But if "you have highly appreciated property or securities to donate, then a trust or pooled fund can't be beat," says Alexandra Armstrong, a Washington financial planner.

All of these plans involve a trade-off between deductions and income. Whichever you prefer, the motive should be charitable. "It's an irrevocable gift," says Jerry McCoy, a Washington lawyer. "You have to make a clean break with the stuff." *Troy Segal*

Smart Money

COMMODITY FUNDS: AN INVESTMENT FOR ALL SEASONS

Most investors cringe when they think of Bloody Monday, the day in October, 1987, when the Dow Jones industrial average fell 508 points. But not those who had invested in commodity futures funds. "They made money on the day of the crash," says James Klein, a senior vice-president at PaineWebber. "There is no basic correlation between the performance of stocks and commodities."

That's the major appeal of commodity funds right now. The possibility of a recession puts commodity funds into position as a hedge against any new tumble in the stock market. Sure, they're considered speculative playthings. But like mutual funds, com-

pared with 25% for stocks.

Averages, of course, can be deceiving. The key factor is a fund manager's consistency. "It's better to choose a manager with three straight years of 33% returns than one with 100% one year followed by two consecutive flat years," says Kenneth Tropin, president of John W. Henry & Co., a Newport Beach (Calif.) firm that manages \$235 million in 65 markets.

QUICK MOVES. Experts also urge prospective investors to review the disclosure statements of trading advisers to check their background, trading experience, and investment strategy. The National Futures Assn. (312 781-1300), a trade group, can

provide everything from market data to disciplinary records. Many funds that have been in existence for a few years—especially successful ones—are closed to new customers. But savvy managers usually launch new funds soon after their existing ones are fully subscribed. So you

shouldn't have too much trouble finding a fund managed by someone you like.

Although weather or political strife can influence futures prices without warning, pros stress that investors should be in for the long haul. The June turmoil in Beijing, for instance, caused wheat prices to drop sharply on fears that China would back out of its buying commitment. Wheat speculators took a hit. But many fund managers swiftly cut back on grains and moved into gold and other futures that rose on the tumult abroad. *Jon Friedman*

THE HOTTEST COMMODITY FUNDS

Fund	Price gain* Percent
LASALLE STREET FUTURES	63.2%
MATTHEWSON COMMODITY II	44.2
COLUMBIA FUTURES	38.6
ADMIRAL	36.6
THOMSON COMMODITY II	35.8

* 1989 through May 31

DATA: MANAGED ACCOUNT REPORTS

modity funds can gain stability through such diverse vehicles as grain, livestock, Treasury bills, and gold.

Commodities professionals note that through the first half of 1989, these funds have been up nearly 15% on average, against about 12% for stocks. Indeed, the top commodity funds (table) dwarf even the 20.1% rise of the Fidelity Magellan Fund, the nation's largest mutual fund and the top performer in the equity fund group over the past 10 years. What's more, since mid-1986, the top commodity funds are up an average 50%, com-

CARRERA 4:
SURE-FOOTED



Autos

PORSCHE REFINES THE RIGHT STUFF

The Porsche Carrera has the reputation of a pit bull: potent, high-strung, and unpredictable. But the new Carrera 4, a complete reworking of the classic 25-year-old design, could change all that.

Four-wheel drive has tamed the rear-engined beast. A computer parcels out 247 horsepower among all wheels instead of just the rear two. Add a quick-stopping antilock braking system and the result is a growling creature that inspires confidence instead of caution.

The Carrera 4 begs to go fast. It jumps from 0 to 60 mph in about 5 seconds. Top speed is around 160 mph. The car really shines when the going gets slippery, handling rapid maneuvers in the rain with uncanny aplomb.

Porsche designers retained the well-known Carrera shape for the new version. But nearly everything else about the car was changed or refined. The bigger, more powerful engine is not only blazingly fast, it behaves in stop-and-go traffic. Power steering, added to counter the new front-end weight, helps. Gone is the bulky "whale tail" spoiler that helped keep the car on the ground at higher speeds. In its place is an electronically controlled wing that deploys at about 50 mph.

The cockpit retains a spare,

utilitarian flavor, but with some civilized niceties added. The heating and cooling systems have been beefed up, and a simple integrated control with automatic temperature regulation replaces the confusing array of knobs and levers found in past models. A new center console and other cosmetic touches lend the interior a more finished look.

STICKER SHOCK. Carreras have never been known for their smooth rides. Unfortunately, despite all its sophistication, the Carrera 4 is even worse in that department than its predecessors. Apparently the all-wheel-drive system, and suspension changes to accommodate it, are responsible. Bumps send spinning rattling shock waves through the seats. And rough pavement unleashes a resonant rumble loud enough to disrupt normal conversation.

The car sends shock through the pocketbook, too. The base model, with air conditioning and a sound system, runs \$69,500 (the two-wheel drive version starts at \$51,200). Leather upholstery, heated power seats, and a \$650 gas-guzzler tax bring the total to nearly \$75,000. But who thinks about money when that Porsche power plant sets the blood racing and the mind yearning for the autobahn? *David Woodruff*

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Education

GIVE YOUR BUSINESS SKILLS A B-SCHOOL BRUSH-UP

Experience, it's said, is the best teacher. But if you feel you have learned just about all you can on the job, it may be time to go back to school. No, you don't have to spend two years getting an MBA. You can join the 4 million U.S. managers a year who return to the classroom for as little as three weeks to sharpen their business skills.

The most useful and stimulating executive education programs are general management courses. They offer a comprehensive curriculum of accounting, finance, and marketing courses over periods of 4 to 10 weeks. Execs study and socialize evenings and weekends.

LONG DAYS. Even if you already have an MBA, as roughly 40% of the participants in these programs do, you'll probably discover some new ideas and approaches that weren't around when you were in business school. A Battelle Human Affairs Research Center survey found that 75% of the companies that sent executives to these courses were satisfied with the results, compared to a 50% satisfaction rate for shorter courses, which typically last just 3 to 10 days.

The requirements seem stiff. Most schools, such as the University of Chicago, the University of Michigan, and the Wharton School, say they

are looking for executives who have 10 to 15 years of experience and are on the fast track in their companies. The programs warn of rigorous study requirements, with workdays lasting up to 16 hours. The application forms are daunting, asking for everything from your salary fig-

Which are the best? It's tough to judge, but the most popular are at such business schools as Stanford and Harvard. The executives they draw aren't necessarily of the first rank, however. Harvard's 10-week course has a capacity of 1,100, which means that admission is not very competitive. Also, if your goal is to meet people, you may be better off at a university closer to home.

Your choice might depend, too, on your interest in international business. Even now, some CEOs don't feel it's

have some foreign students enrolled, however. Among alumni of the Darden School executive programs at the University of Virginia are Arnes Toth, associate professor at Karl Marx University in Budapest, and John Akers, CEO of IBM.

Another important consideration is your taste in teaching styles. Harvard and Darden use the case-study method. Students analyze new cases each evening and review them in class the next day. The system requires active class participation. Stanford is better known for its academic research and for professors who tend to lecture, a style that sometimes leads to less class discussion.

NO CUTTING. Attending these programs requires sacrifice. You will be away from home for a month or more. It also means lots of studying and a little privacy. You might think of going to a school nearby so that you can live at home. Don't. Participants spend a good portion of what they learn comes from other managers after class.

Make sure you don't leave loose ends untied before going off to school. Cornell insists that its students be "totally free of business obligations," so they are not distracted. Walking out of class to close a deal is frowned upon.

For the properly prepared, however, the classes can be rewarding. Some alumni report their participation was among the most intense and satisfying experiences of their lives. *Leslie He*



ure to essays. It's not too late to apply for many of the fall programs, and not too early to start thinking about next spring and summer.

Don't let the process scare you. If your company is willing to foot the bill—typically about \$14,000—chances are you won't have trouble getting accepted. For a full listing, take a look at *Bricker's International Directory of University Executive Programs* (800 338-3282).

worthwhile for their managers to mingle with foreigners they'll never do business with, says Ray Watson, executive director of *The Bricker Bulletin*, a newsletter on executive education. If that is how your boss feels, a Midwestern campus is your best bet.

If, on the other hand, you do want exposure to foreign execs, half of those at Stanford are from outside the U.S. All schools strive for a diversity of students and will

be taken as miscellaneous deductions. One stipulation: The request must concern a personal, not business, tax matter.

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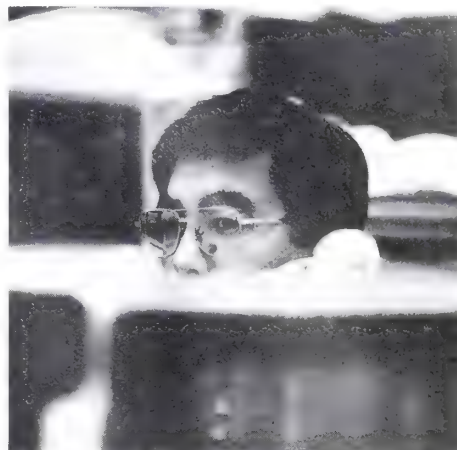
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Worth Noting

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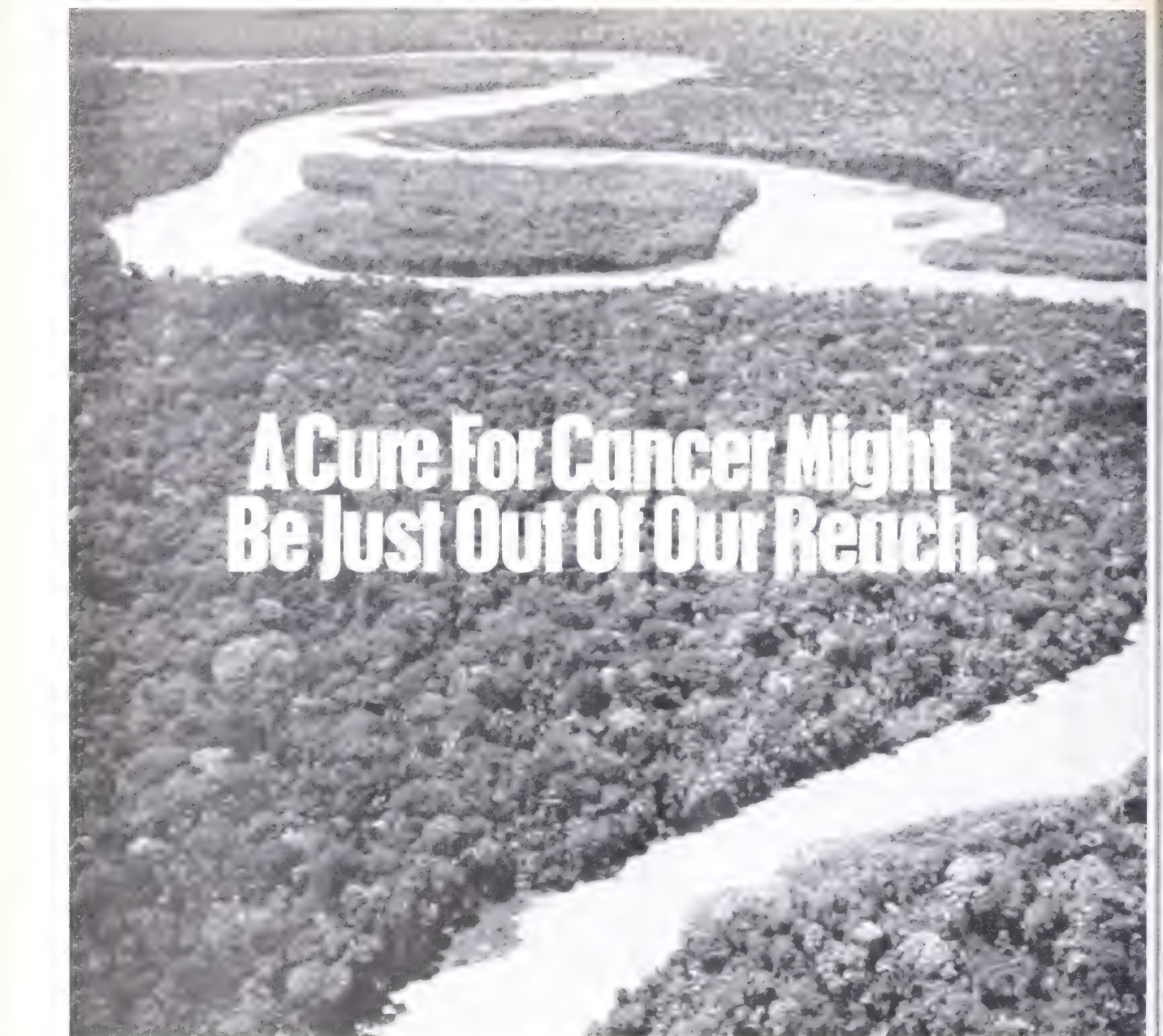
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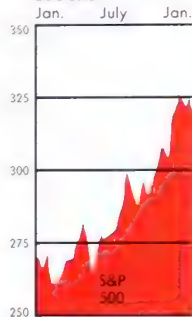
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Investment Figures of the Week

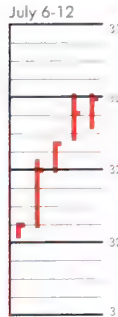
MENTARY

is a great week to be in the market. Both the Dow Jones and the broader S&P 500 index surged to postcrash highs, with the narrower measure adding a nifty 76 points. Investors obviously liked the cut in the prime rate and believe that the economy is heading for a soft landing. The rate on 30-year Treasury securities fell below 8% for the first time since April, 1987. Rates on shorter-term securities also declined in response to further easing by the Federal Reserve.

STOCKS

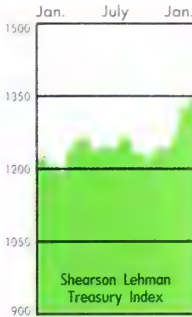


52-week change
+22.5%

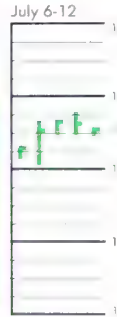


1-week change
+2.9%

BONDS

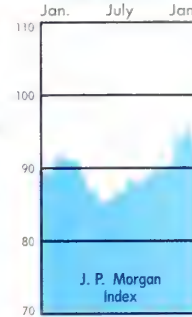


52-week change
+11.5%



1-week change
-0.9%

THE DOLLAR



52-week change
+1.9%



1-week change
-0.2%

MARKET ANALYSIS

STOCKS	Latest	% change Week	% change 52-week
DOW JONES INDUSTRIALS	2532.6	3.1	20.4
COMPANIES (Russell 1000)	174.4	2.8	21.8
ALL COMPANIES (Russell 2000)	171.9	2.4	14.1
COMPANIES (Russell 3000)	187.0	2.8	21.1

FOREIGN STOCKS	Latest	% change Week	% change 52-week
DOW JONES (FINANCIAL TIMES 100)	2256.7	4.3	20.6
DOW JONES (NIKKEI INDEX)	33,701.5	1.2	20.3
DOW JONES (TSE COMPOSITE)	3837.4	1.7	12.2

FUNDAMENTALS

	Latest	Week ago	Year ago
90-DAY TREASURY BILL YIELD	8.0%	8.0%	6.7%
30-YEAR TREASURY BOND YIELD	8.0%	8.1%	9.2%
S&P 500 DIVIDEND YIELD	3.4%	3.5%	3.8%
S&P 500 PRICE/EARNINGS RATIO	12.9	12.5	14.4

TECHNICAL INDICATORS

	Latest	Week ago	Reading
S&P 500 26-week moving average	304.9	303.1	Positive
Stocks above 26-week moving average	65.4%	62.4%	Neutral
Speculative sentiment: Put/call ratio	0.22	0.28	Negative
Insider sentiment: Vickers sell/buy ratio	1.93	2.01	Positive

INDUSTRY GROUPS

4-WEEK LEADERS	% change 4-week	% change 52-week
LEAD MINING	10.0	-4.4
ENTERTAINMENT	8.9	61.1
AIRLINES	8.7	55.4
HOSPITAL MANAGEMENT	8.1	41.4
WELL EQUIPMENT AND SERVICES	7.2	25.5

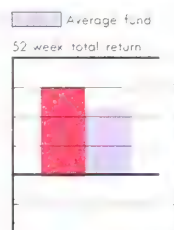
4-WEEK LAGGARDS	% change 4-week	% change 52-week
INSURE TIME	-10.3	-1.0
MACHINE TOOLS	-8.2	-21.6
COMPUTER SOFTWARE AND SERVICES	-6.4	9.5
STEEL	-6.3	4.8
BLISHING	-5.1	29.4

Strongest stock in group	% change 4-week	% change 52-week	Price
NEWMONT MINING	14.7	-10.1	39 1/8
WARNER COMMUNICATIONS	15.4	74.7	62 7/8
UAL	39.2	70.3	165 5/8
AMERICAN MEDICAL INTL.	15.5	48.2	26 1/8
HALLIBURTON	17.2	17.6	35

Weakest stock in group	% change 4-week	% change 52-week	Price
OUTBOARD MARINE	-24.7	-4.0	33 1/8
CROSS & TRECKER	-9.5	-36.2	117 7/8
LOTUS DEVELOPMENT	-13.8	-3.7	22 5/8
BETHLEHEM STEEL	-12.8	-10.4	20 1/2
TIME	-16.4	53.3	146 1/4

MUTUAL FUNDS

LEADERS		LAGGARDS	
4-week total return	%	4-week total return	%
STRATEGIC INVESTMENTS	18.1	FIDELITY SELECT COMPUTERS	-7.1
UNITED SERVICES GOLD SHARES	16.1	FINANCIAL STRATEGIC TECHNOLOGY	-7.0
INTERNATIONAL INVESTORS	12.3	FIDELITY SELECT SOFTWARE & COMPUTER	-6.8
52-week total return	%	52-week total return	%
FIDELITY SELECT BROADCAST & MEDIA	48.3	STRATEGIC GOLD/MINERALS	-26.6
GER SMALL CAPITALIZATION PORTFOLIO	44.9	UNITED SERVICES NEW PROSPECTOR	-16.6
EX II	43.6	SLH PRECIOUS METALS & MINERALS	-16.5



RELATIVE PORTFOLIOS

Amounts
invested the present
of \$10,000
ended one year
in each portfolio

Figures indicate
yearly total returns



U. S. stocks
\$12,604
+3.40%



Foreign stocks
\$12,486
+3.51%



Treasury bonds
\$12,260
+0.34%



Money market fund
\$10,698
+0.16%



Gold
\$8,620
+0.66%

Figures on this page are as of market close Wednesday, July 12, 1989, unless otherwise indicated. Relative portfolios include S&P 500 companies only; performance and share prices are as of market close

July 11. Mutual fund returns are as of July 7. Relative portfolios are valued as of July 11. A more detailed explanation of this page is available on request.

GIVE POLAND SOMETHING TANGIBLE, MR. BUSH

As George Bush noted before he visited Poland (quoting Woody Allen): "90% of life is just showing up." The intuitive Poles got the message. Although he was the first U.S. President in a decade to come to Poland, the emotional outpouring that the Polish people displayed toward other Western leaders never materialized for Bush.

The Poles are disappointed by the modest economic aid program Bush unveiled. Delaying repayment to the U.S. of \$1 billion in loans, working with other Western creditors to restructure debt, and providing \$100 million to boost nascent entrepreneurs will help. But in a country trying to make the unprecedented transition from communism to democracy under the burden of \$39 billion in debt and 100% inflation, Bush's package falls short in both timing and scope.

Bush is right to say that pouring money into a socialist economy incapable of using it efficiently is a mistake. But the Poles, bred by history to something more than cynicism, have heard talk of austerity and belt-tightening before from Western leaders. Without greater commitment by the West, even the Solidarity opposition won't rouse the Polish populace to undertake meaningful reform. That would send the wrong kind of ripples throughout Eastern Europe.

When he departed from Poland, Bush left behind no mechanism to help foster the economic reforms that he stipulates as a prerequisite to further help. So far, the President hasn't even persuaded Senate conservatives to allow duty-free status for most Polish exports to the U.S. And in Poland's case, the much-praised Brady Plan for easing Third World debt doesn't seem to apply.

Bush could begin, as a Senate Foreign Relations Committee study suggests, by appointing a high-level special envoy to work with the ruling Communist Party and Solidarity on economic change. The Administration also dismisses as too costly Solidarity's plan for restructuring \$10 billion in debt. But the scheme calls for no new funds from the U.S., imposes stiff conditions to prevent wasting any new credits, and suspends any transfer of resources to the Soviet Union. Actively exploring such proposals would go far to convince the Poles that at this critical time the U.S. can be counted on to do more than just show up.

GREENSPAN IS STEERING THE RIGHT COURSE

Tennis great Bill Tilden used to say, "Never change a winning game." That is a maxim the Federal Reserve Board should heed. The Fed has been trying to fine-tune the economy based on signs of strength or weakness. So far, this gradualist monetary policy is working.

Even the Fed's worst critics have to admit that the money managers have everything going their way. The June job report is the clearest evidence yet that gradual tightening of

monetary policy has put the economy on the glide path for soft landing—a slowdown that eases inflationary pressures and avoids a recession. Employment growth is slower but still healthy. And there are scattered signs of cooler wage growth, a key to relieving inflationary pressure.

Now, the Fed is doing exactly what it should be doing: easing monetary policy. After 16 months of tightening, began loosening up in early June, as the effects of the tightening began to be felt in the economy. And in early July, the Fed has eased once more. That's clear from its latest cut of about one-fourth of a percentage point in the federal funds rate to around 9¼%.

The Fed's task remains a delicate one. Inflationary pressures may be waning, but they're not dead. Wage and price pressures in the service sector remain strong. At the same time, though, the risks of recession have increased, mainly because the manufacturing sector is weakening. Factory employment fell for the third straight month in June, and industrial production has slowed sharply.

Right now, Fed Chairman Alan Greenspan occupies the middle ground between the Fed's pro-growth advocates and the anti-inflation hawks. Many on the Board have called for more aggressive easing, while a few of the regional presidents want to see inflation obliterated even at the economy's expense. As long as gradualism is working, Greenspan shouldn't bow to either extreme.

DON'T FORCE THE THRIFTS TO DUMP JUNK BONDS

Debt is a dirty word on Capitol Hill, especially talk about debt. Legislators have long searched fruitlessly for a way to curb that kind of leverage. Now they're trying again, in two separate areas. While one is sensible, the other is a knee-jerk proposal that panders to public misperceptions about the junk-bond market.

On the plus side, the House Ways & Means Committee is considering provisions that will diminish the favorable tax treatment of zero-coupon and payment-in-kind (PIK) bonds, which are regularly used to fund leveraged buyouts. One measure would prevent borrowers from taking an interest cost tax deduction for some PIK paper, which pays off investors in new bonds rather than cash. These provisions are eminently fair. They eliminate some devices used to prop up LBOs that might not stand on their economic merits.

But the House is overreaching in the thrift bailout bill when it proposes to make savings and loan associations divest their junk-bond holdings within two years. This measure plays to public fears that junk bonds are risky devices used primarily to bust up corporations for the benefit of a few asset-stripping raiders. It is reasonable to require thrifts to limit their future investment in all risky ventures—including junk—to some percentage of their capital or to uninsured deposits. But it is wrongheaded to force them to dispose of past investments in a given time, no matter the condition of the market. The U.S. needs solid proposals to redress its current bias toward debt over equity. That so-called divestiture provision isn't one of them.

INSIDE

THE FED

In two years as chairman of the Federal Reserve, Alan Greenspan has done a very good job. Now comes the moment of truth. Can he orchestrate the much-desired "soft landing" —

reducing inflation without pitching the economy into a budget-busting recession? Here's a close-in look at how

this politically savvy number-cruncher runs the Fed's very private world.

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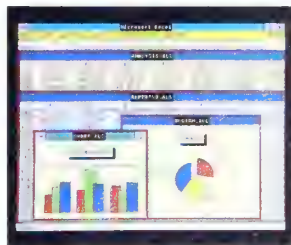
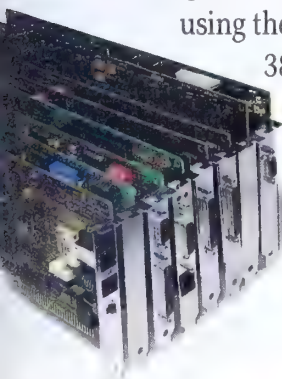
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ORCHESTRATING MONETARY POLICY: GREENSPAN IS ADEPT AT BUILDING A CONSENSUS AMONG THE MANY FACTIONS AT THE FED

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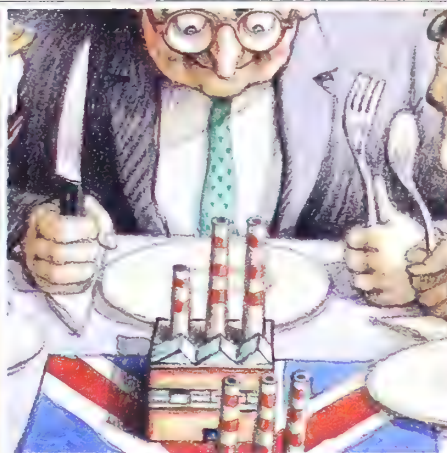
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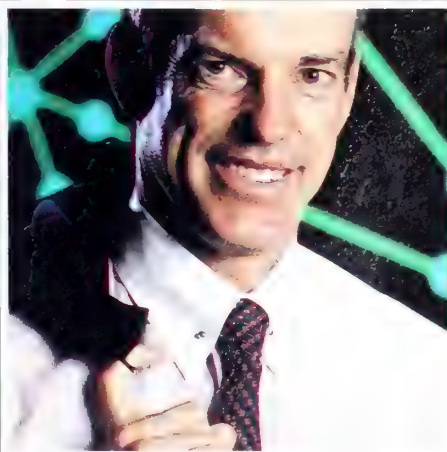
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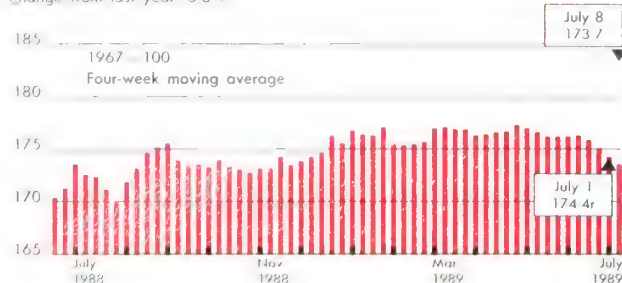
108 EDITORIALS

Time's directors shouldn't cheer yet
The proof is in the cash flow
Show biz no longer becomes NASA

BusinessWeek Index

PRODUCTION

Change from last week: -0.4%
Change from last year: 0.6%

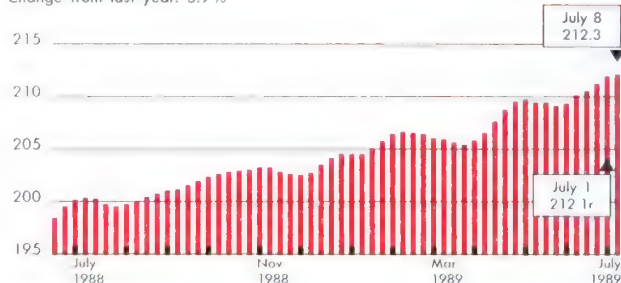


The **production index** fell for the week ended July 8, as the industrial sector of the economy continues to weaken. Seasonally adjusted output of lumber, autos, rail freight traffic, and coal dropped sharply, and truck production declined as well. Electric power, steel, paperboard, and paper output increased slightly. Crude-oil refining output was unchanged. Before calculation of the four-week moving average, the index declined to 173.2 from 173.4 in the previous week.

BW production index copyright 1989 by McGraw-Hill Inc.

LEADING

Change from last week: 0.1%
Change from last year: 5.9%



The **leading index** rose slightly for the week ended July 8. Higher stock prices, lower long-term bond yields, and faster growth in the money supply offset an increase in the number of business failures and slower rate of change in real estate loans. The increase in materials prices was unchanged from the previous week. Before calculation of the four-week moving average, the index fell to 212.1 from 212.7 in the prior week.

Leading index copyright 1989 by Center for International Business Cycle Research

PRODUCTION INDICATORS

	Latest week	Week ago	% Change year ago
STEEL (7/15) thous. of net tons	1,846	1,803 #	-4.5
AUTOS (7/15) units	58,504	40,925r	-37.7
TRUCKS (7/15) units	38,435	29,248r	-0.7
ELECTRIC POWER (7/15) millions of kilowatt-hours	62,240	57,848 #	-1.0
CRUDE-OIL REFINING (7/15) thous. of bbl./day	13,944	13,989 #	3.3
COAL (7/8) thous. of net tons	11,388 #	14,403	-10.9
PAPERBOARD (7/8) thous. of tons	717.0 #	757.8r	2.7
PAPER (7/8) thous. of tons	687.0 #	742.0r	3.3
LUMBER (7/8) millions of ft.	146.1 #	513.8	-55.5
RAIL FREIGHT (7/8) billions of ton-miles	13.9 #	18.0	-14.7

Sources: American Iron & Steel Inst., Ward's Automotive Reports, Edison Electric Inst., American Petroleum Inst., Energy Dept., American Paper Inst., WWPAA¹, SFPA², Association of American Railroads

FOREIGN EXCHANGE

	Latest week	Week ago	Year ago
JAPANESE YEN (7/19)	142	140	131
GERMAN MARK (7/19)	1.90	1.88	1.83
BRITISH POUND (7/19)	1.62	1.62	1.74
FRENCH FRANC (7/19)	6.44	6.36	6.16
CANADIAN DOLLAR (7/19)	1.19	1.19	1.20
SWISS FRANC (7/19)	1.64	1.62	1.52
MEXICAN PESO (7/19) ³	2,523	2,515	2,300

Sources: Major New York banks. Currencies expressed in units per U. S. dollar, except for British pound expressed in dollars.

PRICES

	Latest week	Week ago	% Change year ago
GOLD (7/19) \$/troy oz.	370.700	379.750	16.7
STEEL SCRAP (7/18) # 1 heavy, \$/ton	110.50	110.50	-9.8
FOODSTUFFS (7/17) index, 1967=100	223.5	225.6	-9.6
COPPER (7/15) c/lb.	109.7	108.8	5.8
ALUMINUM (7/15) c/lb.	79.5	84.5	-36.7
WHEAT (7/15) # 2 hard, \$/bu.	4.30	4.38	12.6
COTTON (7/15) strict low middling 1-1/16 in., c/lb.	66.38	65.88	13.4

Sources: London Wed. final setting, Chicago mkt., Commodity Research Bureau, Metals Week, Kansas City mkt., Memphis mkt.

Raw data in the production indicators are seasonally adjusted in computing the BW index (chart); other components (estimated and not listed) include machinery and defense equipment
1 = Western Wood Products Assn. 2 = Southern Forest Products Assn. 3 = Free market value NA = Not available r = revised NM = Not meaningful

LEADING INDICATORS

	Latest week	Week ago	% Change year ago
STOCK PRICES (7/14) S&P 500	329.49	321.33	22.0
CORPORATE BOND YIELD, Aaa (7/14)	8.94%	8.97%	-10.2
INDUSTRIAL MATERIALS PRICES (7/14)	104.6	104.5	5.9
BUSINESS FAILURES (7/7)	232	201	-21.6
REAL ESTATE LOANS (7/5) billions	\$330.3	\$330.0	14.7
MONEY SUPPLY, M2 (7/3) billions	\$3,096.5	\$3,091.3r	2.8
INITIAL CLAIMS, UNEMPLOYMENT (7/1) thous.	344	347	13.3

Sources: Standard & Poor's, Moody's, Journal of Commerce (index: 1980=100), Dun & Bradstreet (failures of large companies), Federal Reserve Board, Labor Dept. CIBC seasonal adjusts data on business failures and real estate loans.

MONTHLY ECONOMIC INDICATORS

	Latest month	Month ago	% Change year ago
HOUSING STARTS (June) annual rate, thous.	1,400	1,309r	-4.3
INDUSTRIAL PRODUCTION (June) total index	141.1	141.4r	3.1
RETAIL SALES (June) billions	\$140.8	\$141.3r	4.1
PRODUCER PRICE INDEX (June) finished goods	114.0	114.1	5.1

Sources: Commerce Dept., Federal Reserve, Census Bureau, BLS

MONETARY INDICATORS

	Latest week	Week ago	% Change year ago
MONEY SUPPLY, M1 (7/3)	\$777.4	\$769.5r	0.1
BANKS' BUSINESS LOANS (7/5)	316.9	314.1r	4.1
FREE RESERVES (7/10)	382	220r	NM
NONFINANCIAL COMMERCIAL PAPER (7/3)	125.6	126.3	37.1

Sources: Federal Reserve Board (in billions, except for free reserves, which are expressed for a two-week period in millions).

MONEY MARKET RATES

	Latest week	Week ago	Year ago
FEDERAL FUNDS (7/18)	9.24%	9.25%	7.83%
PRIME (7/19)	10.5-11.0	10.5-11.0	9.50
COMMERCIAL PAPER 3-MONTH (7/18)	8.68	8.66	7.89
CERTIFICATES OF DEPOSIT 3-MONTH (7/19)	8.85	8.75	8.00
EURODOLLAR 3-MONTH (7/12)	8.91	9.16	8.00

Sources: Federal Reserve Board, First Boston

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KEEP THE SPOTLIGHT ON CORPORATE DIRECTORS

The most significant improvement in corporate boards will be actual representation of their constituents—the stock owners (“Taking charge: Corporate directors start to flex their muscle,” Cover Story, July 3).

To accomplish this, the following reforms will have to occur:

- Contested elections for directors, so that stock owners have a choice of how best to manage their assets.
- Mandatory ownership of common stock by directors, so that they’re members of the group they represent and have a significant, vested interest in the maximum return on investment.
- Regular reporting by the directors to the stock owners, such as on the corporation’s performance rating, which could be printed in the proxy statement.

Some of these reforms have already shown up in resolutions for votes at annual meetings. Their time has come.

Carl Olson
 Chairman
 Fund for Stockowners Rights
 Washington

It’s about time that we pay closer attention to the role of corporate directors. In small banks, directors are spending their time reviewing spilled milk rather than promoting strategic planning for their institutions.

At least for the banks, the board of directors typically is a most valuable, yet underutilized, resource.

William F. Staats
 Professor of Banking
 Louisiana State University
 Baton Rouge, La.

DON'T LET THE HUD SCANDAL MAR WORTHY PROJECTS

Thank you for your article on the emergence of public-private partnerships, which included the Boston Housing Partnership (“Cleaning house at HUD—and then some,” Finance, July 10).

In Boston, nonprofit developers are the backbone of our affordable-housing program. They aren’t creating high-rise

ghettos—they’re helping rebuild neighborhoods. A number of developments have won architectural awards. They include new homes for first-time buyers, limited-equity cooperatives, rental apartments, and lodging houses. Many are mixed income.

Although these local public-private community partnerships have a successful track record, your article correctly points out that they are not a cure-all for the nation’s housing ills. Subsidy funds, which are required to fill the gap between what poor and working-class families can afford and what housing actually costs to build and operate, are very scarce.

The HUD scandal should not be used as an excuse to dismantle federal housing efforts, but as an opportunity to look for new directions. With federal support, the nonprofit public-private partnership approach—embodied in the Community Housing Partnership Act now pending in Congress—can help us resolve the housing shortage. This approach should appeal to an Administration that emphasizes self-help, entrepreneurship, and grass-roots initiative.

Raymond L. Flynn
 Mayor
 Boston

HOUSING: A BETTER FOUNDATION IS SUBSIDIES, NOT CONSTRUCTION

Your story on housing partnerships (“And the latest great housing hope is...,” Finance, July 10) distorts the trends in federal housing aid for low-income households. The article blames the problem on a “lack of money and attention under the Reaganites” by citing the decline in federal budget authority. But this figure, which depends on the duration of housing projects and on the mix of subsidies between construction and aiding households to rent existing households, reveals little.

The more important indexes increased substantially. Between 1980 and 1987, the number of subsidized households rose from 4 million to 5.3 million, and the real value of benefits per household increased from \$2,040 to \$2,870. Although current programs fail to cover all poor households, doing more will require con-

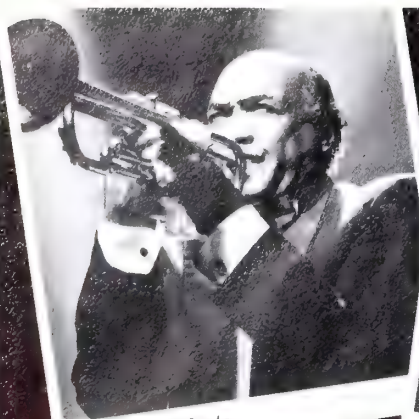
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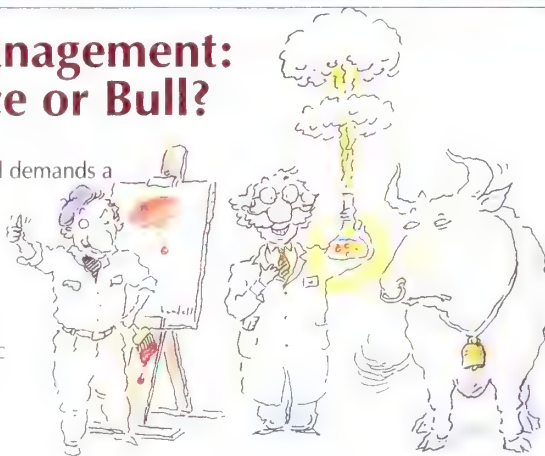


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Readers Report

tinuing the shift from construction to cost-effective household subsidies, even if some misinterpret the result as a decline in federal effort.

Robert I. Lerman
Economics Dept.
American University
Washington

DON'T GO TO KOREA IN SEARCH OF LOW WAGES

Your article "Is the era of cheap Asian labor over?" (International Business, May 15) uses numbers for South Korea that may mislead, though the calculation for the percent increase of average monthly wages depends on the rapidly rising exchange rate used in the calculation. My figures show the rise from 1984 to 1988 to be 76%, not 110%.

Still, wages have been rising in Korea both in won and dollar terms. Prospective investors and buyers there should recognize that Korea is shedding manufacture of low-wage, low-productivity products. Productivity has risen rapidly though not in all industries.

Foreign companies should be aware that unless they can increase productivity, manufacturing in Korea will rapidly become uncompetitive. They should be looking at the growth industries—e.g. electronics, machinery, automobiles. They also should ask whether they can improve design and quality, not just units of output per worker. That is the principal way Korea has increased productivity—not by producing two pairs of shoes instead of one, but by producing a \$2 pair in place of a \$1 pair.

John T. Bennett
Korea Economic Institute of America
Washington

THE REAL ENEMY OF INNOVATION IS OVER-REGULATION

One element that you didn't include in your excellent "Innovation in America" special issue (June) is the ever increasing government regulation of corporate deals, either direct or influenced which serves to impede innovation.

Our company, Equity Directions Inc. decided that a solution to the lack of affordable housing was to combine a manufactured house (mobile home) with the land and provide a "real estate" transaction with all of the financing alternatives and benefits of a site-constructed home.

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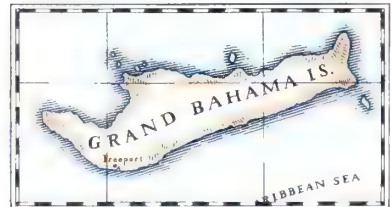
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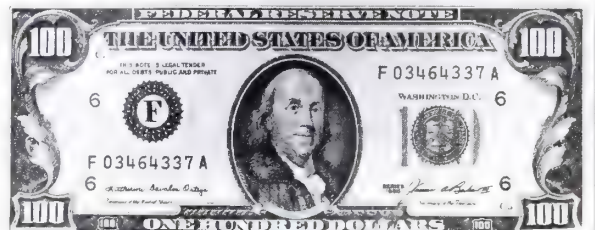
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Readers Report

CORRECTIONS & CLARIFICATIONS

In the table accompanying "Computer makers are blue—but not IBM" (Information Processing, July 24), profit and revenue figures for the second quarter and first half of 1989 were estimates.

and modified our business to resolve the issue or circumvent the problem, we never overcame the difficulty of the attitude we confronted. No one thought about how to make a positive interpretation of change. Everyone thought only in terms of enforcing policy or rules that were put in place to serve a different product than what we were providing. Even though the market accepted and bought our homes with a high degree of demand, our inability to deliver quickly enough created an absorption rate that was too low to deal with the interest payments for the project.

Add to this an FDIC takeover of the troubled savings and loan that held our development loan and the inability to move that loan in the troubled Phoenix real estate market, and we became another statistic.

We thought then and still think we are innovators, but we know we are out of business... due in large part to excessive government regulation.

Arthur S. Conso
President
Equity Directions Inc.
Phoenix

IN CONGRESS, LONGEVITY CORRUPTS

The editorial "A pay hike might make Congress more ethical" misses the mark (Editorials, July 10). So long as members of Congress feel they're beyond the reach of the voters—with better than 95% of those running for reelection being successful—ethics and special interest money will be a problem.

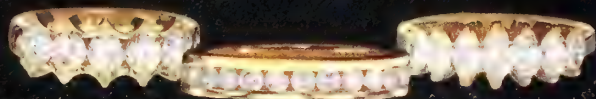
The way to bring a fresh look to Congress is to limit the number of terms an individual may serve. Limiting senators to two terms and representatives to five terms would breathe new life into an institution that has gone stale. Both Senators Gordon J. Humphrey (R-N. H.) and William L. Armstrong (R-Colo.) have already announced their retirements for precisely that reason.

R. M. Coquillett
Mattapoisett, Mass.

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Four things to open in case of rain this weekend



Soggy in Sag Harbor? Discover a hotbed of espionage and adventure in **Istanbul Intrigues**, a true-life *Casablanca* thriller about the glamorous, romantic city linking Europe, Asia, and the Middle East during World War II. *Publishers Weekly* hails its "spine-tingling narrative" and *Kirkus Reviews* calls it "masterful."

Pouring in Portland? Curl up with this summer's most scorching techno-thriller, **The Bio-Assassins**, a novel "that crackles with... excitement" (*Kirkus Reviews*) as it explores an all-too-possible-premise: what happens when a fanatical terrorist group seizes hold of a bacterium so

lethal, a small amount of it could destroy the world.

Chilly on the Chesapeake? Feel the heat of battle in **Carrier Wars**, Edwin P. Hoyt's "concise... dramatic briefing on carriers... There's no denying their glorious past—which Hoyt brings to vivid life." (*Kirkus Reviews*).

Whatever the weather, book yourself some sizzling summer entertainment today by dropping by your local bookstore or calling us for credit card orders at **1-800-2-MCGRAW**.



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THE HOTEL: A WEEK IN THE LIFE OF THE PLAZA

By Sonny Kleinfeld

Simon & Schuster • 334 pp • \$19.95

UPSTAIRS, DOWNSTAIRS AT A GRAND HOTEL

When I was growing up in New York City, the Plaza hotel figured in all my favorite rituals. Every New Year's morning during our teen years, my brother and I walked a freezing mile to Fifth Avenue and 59th Street, climbed the fountain in front of the hotel, and watched the sunrise. After college, when I returned to the city and got my first job, my idea of a Sunday outing was to pack a sandwich, perch on the wall along Central Park South, and study the action at the Plaza's side entrance. Later, the Palm Court was where I took girlfriends to celebrate when they got engaged.

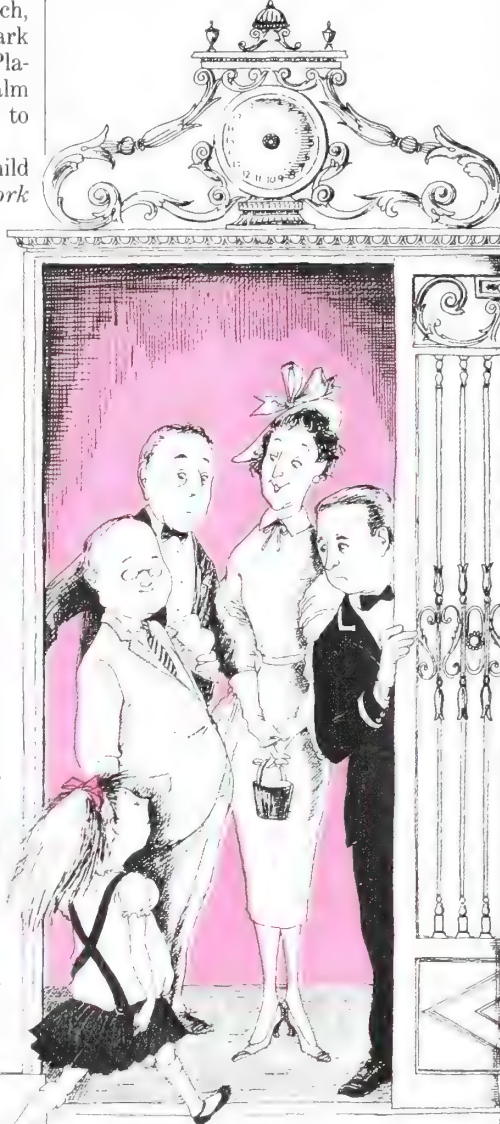
It turns out I'm not alone in this mild obsession. Sonny Kleinfeld, a *New York Times* reporter whose previous books include *Staying at the Top* and *Talking Straight*, spent a week at the Plaza learning how the doormen, chambermaids, chefs, managers, and hundreds of other employees keep it running. *The Hotel: A Week in the Life of the Plaza* is a fascinating diary of their chores.

New York superdeveloper Donald Trump loves the Plaza, too—so much that he bought it in early 1988. The week that Kleinfeld chronicles, in the spring of 1988, predates any changes by Trump and his wife, Ivana, now president of the Plaza. But the book isn't nostalgic. Instead, Kleinfeld finds out what makes the place so lovable. It's almost as if he's challenging the Trumps to see if they can find any way to improve it.

Since Cornelius Vanderbilt first signed the register in 1907, the Plaza has gotten a lot of hype. Kay Thompson's *Eloise*, about a six-year-old who lives at the hotel, fanned publicity in 1955. The Beatles checked in for a week in 1964. Throughout, the Plaza has billed itself as the "world's most luxurious hotel." Except for two dismal eras of crumbling infrastructure and falling profits in the 1950s and early '70s, it has maintained its image.

The business travelers, tourists, and honeymoon couples who check into the Plaza have higher expectations than guests at other hotels. Some 1,300 employees are trained to see that all their dreams

come true. If the King of Sweden sends the front desk a shopping list, a sales manager dispatches someone to find the golf club, towels, and sweaters he wants. If a CEO needs a last-minute table at Le Cirque, the concierge gets it. If a blind guest wants the Bible read aloud, the hotel sends up a reader. Meticulous attention is paid to every flower, TV remote-control, and pillow mint.



"Oooo I absolutely love
The Plaza."

—ELOISE

The curious thing about the Plaza is that the people who tend to all these details really do seem to enjoy and care about their work. The author descends into the cavernous kitchens, where a soup-and-sauce cook stirs a 90-gallon vat of stock and the head chef's biggest gripe is that the Plaza's volume makes it impossible to maintain first-rate meal quality. Kleinfeld spends an afternoon with the security staff, who cope with everything from obstreperous drunks to luggage thieves. He follows a maid on her rounds, watching her scrub filthy rooms in exactly 20 minutes. Though he hears complaints, most of the people he talks to are proud of their work.

The book offers two kinds of voyeuristic tidbits. Kleinfeld's visits behind the scenes show us the small triumphs and disasters that happen every day in a big hotel. In turn, the workers tell tales about the guests. (This also can get frustrating: You have to guess which movie star beats up his girlfriend in the middle of the night, forcing security to rescue her and smuggle her out of the hotel.)

Kleinfeld unearths facts that are inherently amusing. King Hassan II of Morocco tips with Rolex watches. Two Plaza workers do nothing but clean chandeliers. Another changes light bulbs. (How many light bulbs does it take to employ a man full time? 30,000, no joke.) The prostitutes who work the hotel are left in peace, provided they dress well and space their customers discreetly.

Perhaps because Kleinfeld is a business writer, much of this book concerns money. He shows where the hotel makes its profit—mostly from rooms, not food or services—and where costs are. One reason the employees are so content may be that instead of punishing their chronic pilfering, the hotel simply budgets extra supplies when it orders new sheets or silver. The guests Kleinfeld interviews, too, nearly always chat about the deals they're in town to close or how they've done in the stock market.

But *The Hotel* is not really about wealth. While the Plaza's opulence obviously depends on a generous operating budget and its guests tend to be well-heeled, what Kleinfeld celebrates here is hard work, tradition and a constant vigilance against tackiness. Trump and his wife have made some cosmetic improvements. Kleinfeld hopes that before they fix too much, they realize that what really makes the

Plaza special ain't broke. So do I.

BY JOAN WARNER

Acting Books Editor Warner is still saving up for a weekend at the Plaza.



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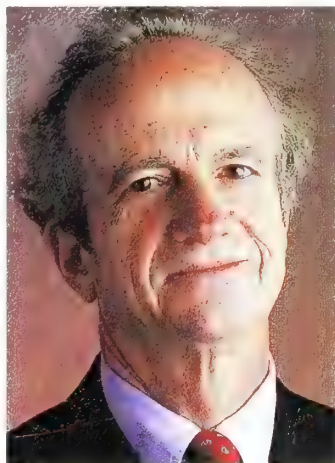
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WHY SOLIDARITY MUST PLAY POINT MAN FOR ECONOMIC REFORM

BY GARY S. BECKER



Only dramatic steps toward a freer Polish economy have a decent chance of succeeding. Gradual change will give the opposition too much time to sabotage reform

Few people in Eastern Europe still believe in a socialism that requires state ownership of most property. Many of the Solidarity leaders I met on a trip to Poland in June want an economic system based largely on private initiative. Even a high-ranking member of the Ideology Dept. of the Polish Communist Party made the remarkable statement to me that "public property is not the essence of socialism." Therefore, with enough determination, Solidarity can substantially free Poland's economy during the honeymoon period of the new Parliament. Hungary has already taken several steps to extend greatly its private sector.

Without freer foreign-trade sectors, domestic reform cannot succeed in small countries such as Poland and Hungary, which are heavily dependent on exports and imports. The Polish zloty is obviously greatly overvalued at the official rate of about 800 to the dollar, and I urge the new government to abolish the official rate and float the zloty freely. The unofficial rate, to some extent already a de facto floating rate, has risen recently to more than 4,500 zlotys—a measure of how unrealistic the official rate is.

Floating rates, when combined with moderate tariffs and quotas, force internal prices of tradable goods to conform to world prices. In particular, competition from imports would allay the fears of some Polish economists that freeing internal prices would give too much monopoly power to state enterprises in such heavy industries as steel.

The U.S. and other countries should help Poland and Hungary reduce their large hard-currency debt, but President Bush and Alliance leaders are right to ask the Poles to solve most of the debt problem through their own actions. The fall in the unofficial zloty rate over the past couple of years has already greatly stimulated Polish exports. Floating rates, combined with much greater reliance on private enterprise, would boost exports from both countries a lot more. The resulting current-account surpluses would cut their foreign debt in a way that encourages rather than discourages future commercial loans.

GRIM OPTIONS. State-enterprise deficits in Poland and Hungary must be reduced quickly to help bring public spending and inflation under control—especially in Poland, where the annual inflation rate recently exceeded 100%. These enterprises can be forced to do better by cutting their subsidies and giving them greater control over prices and employment, though eventually many state enterprises will have to be privatized or shut down.

In Poland, private companies are limit-

ed to a few sectors, mainly agriculture and repairs, and to a small scale. But they should be allowed to enter most industries, issue publicly traded stock and hire as many workers as they wish. Competition would determine the form and the scale appropriate for different activities.

Many advantages of private enterprise can be realized only if the state reduces its regulation of prices and production methods. Market forces of supply and demand, rather than state regulation, should determine the prices of most goods and materials, wages, and employment. Explicit subsidies, when politically necessary, should replace the present wasteful system of queues, rationing, and large hidden subsidies to state enterprises in the form of free rents and low interest rates.

RIOT FEARS. Almost all economists in Poland and Hungary recognize that radical reforms are desirable in the long run but many believe they're neither politically nor economically feasible in the near future. They fear protests and riots if many people lose their jobs, if food prices and rents rise rapidly, and if other privileges under the present system are quickly abolished. They may be right but I agree with those leaders of Solidarity who are convinced that only dramatic steps toward a freer economy have a decent chance of succeeding and that gradual change gives the opposition too much time to sabotage reform.

Slow progress gives groups who would lose special privileges more time to mobilize opposition. Hungary and Poland, the Eastern bloc countries in the most favorable position politically to radically change their economies, have their best shot at a successful transition away from state socialism with quick and forceful reform toward private enterprise and open foreign trade.

Some Solidarity leaders argue that workers and consumers will accept substantial unemployment and other hardships in the short run if they are convinced that state socialism is being replaced by a system that rewards honest effort and initiative. It's a sad commentary on socialist economies that the most ambitious men and women of Poland leave to work in West Berlin, in the U.S., and elsewhere because their own manufacturing and service sectors provide so few incentives for hard work.

Reasonable people can disagree about the precise sequence and timing of steps to free the Polish and Hungarian economies. But no one can doubt that their success in shifting from state-directed to free economics will influence greatly what happens in other Eastern bloc countries, including the Soviet Union. ■

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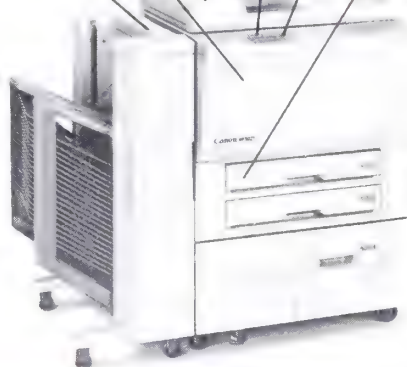
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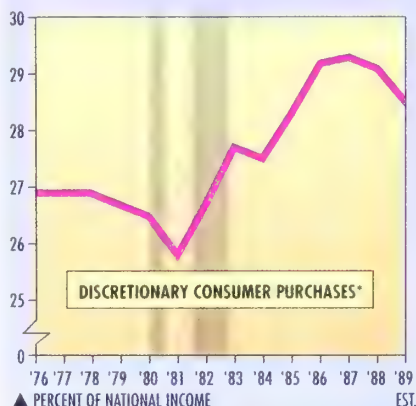
BY GENE KORETZ

WILL AMERICANS KEEP BUYING LESS AND SAVING MORE?

Since the start of the year, real retail sales have been falling, and consumer spending growth has slowed to a crawl. At the same time, the personal savings rate, which averaged well above 7% in the 1970s, has rebounded from 4.2% last year and a low of 3.2% in 1987 to 5.1% so far in 1989.

While some observers view this development as a temporary lull keyed to the aging expansion and a relatively restrictive monetary policy, Robert S. Gay, an

THE 1980S' BUYING BINGE MAY BE PETERING OUT



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economist at Morgan Stanley & Co., argues that it signals the beginning of the end of the explosive spending binge that has characterized most of the 1980s. "Although consumption may recover a bit over the short run," he says, "spending and savings over the next few years are likely to return to the growth rates they exhibited in earlier decades."

Between 1981 and its peak in 1987, notes Gay, household spending as a share of national income jumped by 3.6 percentage points—hitting a record high more than five percentage points above its average value in the 1970s. More important, virtually all of that rise was attributable to a sharp pickup in discretionary purchases (chart), such goods as cars and appliances, and services such as recreation and private education.

"The essence of discretionary spending," says Gay, "is that it can be timed to coincide with periods of economic well-being, and in the 1980s, many Americans suddenly began to feel excep-

tionally rich." One reason was the huge surge in household net worth fueled by spectacular rallies in the stock and bond markets and extraordinary gains in house prices on the populous East and West coasts. Between 1980 and 1987, Gay estimates that household wealth as a percent of national income climbed 40 percentage points (from about 340% to 380%), retracing all of the decline of the previous two decades.

The second wealth-enhancing development was a sharp drop in the prices of discretionary purchases relative to those of nondiscretionary consumer goods and services. While a flood of inexpensive imports fostered by the strong dollar initiated the trend, Gay observes that cost-cutting by U. S. manufacturers also contributed to the growing relative cheapness of many big-ticket discretionary items.

Since 1987, however, Americans have begun to feel a lot less wealthy, contends Gay. For one thing, the stock market crash sharply lowered household net worth for a while. And home prices in many areas of the Northeast and elsewhere have decelerated and even softened. At the same time, the impact of the lower dollar on import prices and the loss of tax deductibility for interest payments have combined to help create a sharp rise in the relative cost of many big-ticket purchases.

"With bargains becoming less and less available, and a growing awareness that asset values cannot continue to soar forever," Gay concludes, "Americans over the next few years are likely to rein in their spending and return to the savings habits of earlier decades."

SMALL BUSINESSES TEND TO STAY PINT-SIZE

The notion that small businesses are powerful engines of job growth doesn't jibe with the facts, says a new Dun & Bradstreet Corp. study. While employment among 245,000 startups recorded by D&B in 1985 had tripled to nearly 2.6 million by 1988, the study indicates that the increase was attributable to a small number of companies.

More than 73% of the companies still in business in 1988, for example, added no employees over the period, 20% added fewer than 10, and 5.2% added 10 to 99. Some 75% of the employment gains were posted by businesses employing more than 100 workers—a group that constituted about 0.3% of the original startups and less than 2% of the survivors in 1988. And the leaders of the pack—the

15 companies that added more than 10,000 employees and accounted for over 25% of the total job growth—all grew through mergers and acquisitions.

THIS ECONOMIST LOOKS AT CREDIT GROWTH—AND SEES NO RECESSION

With the most widely watched monetary aggregates registering scant growth this year, many monetarists believe that a recession may be almost inevitable, even with the Federal Reserve Board's latest turn toward ease. Economist Robert L. Marks of Siff Oakley & Marks Inc. argues, however, that traditional money-supply measures in recent years have been providing an increasingly distorted picture of the economy's true financial liquidity. He points out that total credit in the economy has been growing at an 8% annual rate so far this year—far faster than the wider monetary aggregates (M2 and M3, which include currency, checking and savings accounts, money-market funds, and other deposits). By contrast, credit growth in earlier decades was more closely aligned with these money-supply measures and hardly ever exceeded them.

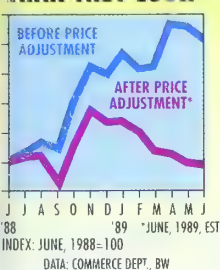
As Marks sees it, three developments have tended to restrain the growth of currently defined money in recent years. One is the huge inflow of foreign capital, a significant portion of which is lent directly to borrowers and hence does not remain in domestic deposit accounts long enough to affect the money supply. Another has been the fast growth of IRA and Keogh accounts at commercial banks, thrifts, and money-market funds—funds which are used to support credit extensions by these financial intermediaries but are not considered as part of the money supply by the Fed. Finally, much of the money borrowed by thrifts from the Federal Home Loan Bank Board, commercial banks, and other sources to replace withdrawals by worried depositors over the past year is not counted in the money supply.

Marks estimates that since mid-1988 such developments have caused M2 and M3 to grow at annual rates nearly five percentage points slower than credit which he now regards as a better index of the tightness of monetary policy than these increasingly flawed measures. And while credit growth has slowed appreciably in recent years, he points out that it is still positive in real terms—"suggesting that Fed policy has been far less restrictive and thus the risk of recession significantly lower than is widely believed."

HOLD YOUR BREATH, WE'RE COMING IN FOR A LANDING

The Federal Reserve Board couldn't be more pleased with Washington's latest batch of economic data—at least for now. The only exception might be May's wider trade deficit. Overall, the numbers point to slower growth and stable inflation in the second half. That combination supports the notion that the Fed is maneuvering the economy in for a soft landing—a slowdown that cuts inflation but avoids a recession. It also allows the Fed to keep nudging interest rates lower this summer in an effort to cushion the economy's descent.

RETAIL SALES: WEAKER THAN THEY LOOK



However, the ground is getting closer—fast. The slowdown is particularly sharp in the goods-producing sector. Retail sales, adjusted for inflation, are falling and have been since November (chart). Retail inventories are becoming troublesome. And industrial production declined in both May and June. The trade deficit's setback doesn't help matters. The gap widened to \$10.2 billion in May from \$8.3 billion in April. Imports jumped 4.3%, to a record \$40.7 billion. Oil imports surged, but manufactured goods also rose. May's 0.9% drop in exports, to \$30.5 billion, wasn't really so bad, though, coming on the heels of two big gains that had lifted exports to a record in April.

May's deterioration is a sign that improvement earlier in the year may have been only temporary. That narrowing accounted for a big chunk of economic growth in the first quarter, offsetting the sharp slowdown in consumer spending. But trade was no help to the economy last quarter, and it may not be much help in the second half. On the bright side, the economic slowdown is improving the inflation outlook. Both the producer and consumer price indexes looked better in June. But consumer weakness is spilling over into manufacturing—a classic formula for recession. And as the economy glides down the second half, the Fed will be holding its breath.

AS RETAIL SLUMPS, STOCKS PILE UP

The Fed-engineered rise in interest rates last year has hit consumer spending at a bad time: late in the expansion when debt loads are heavy, when rising inflation takes away less discretionary income, and when demand for credit-sensitive durable goods is largely satiated. Retail sales reflect consumers' malaise. They fell 0.4% in June, to \$140.8 billion, after a 0.1% dip in May. But that's only part of the story. After adjusting for inflation,

real retail sales have dropped for two consecutive quarters—the first time since the 1981-82 recession.

The June weakness was led by yet another month of soft car sales. But even excluding cars, retail buying managed only a slim 0.1% gain. General merchandise stores posted a sharp 2.1% increase in June, but sales have been up and down this year—basically, they have been flat since January. Sales at food stores and gas stations also fell, although that reflected lower prices.

The weakness in housing is also taking a toll on consumer spending. Although housing starts rose 7% in June, to an annual rate of 1.4 million, all of the gain occurred in multifamily projects. Starts of single-family homes, some 70% of the total, actually fell slightly, to the lowest level in nearly five years.

In the second quarter, total starts averaged 1.35 million per month, a steep drop from 1.52 million in the first quarter. As a result, retail sales of home furnishings, appliances, and building supplies have slowed sharply. Sales of nonauto durable goods fell 0.4% in June.

FACTORIES FALL IN LINE WITH CONSUMERS

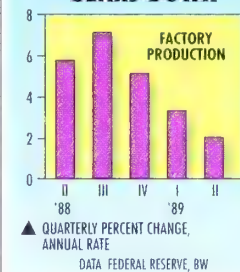
The weakness in retail sales, particularly of cars, is setting up an inventory problem that may already be causing a pileup in the factory sector. Total business stockpiles rose 0.7% in May, to \$776.9 billion, while sales didn't grow at all from their April level of \$517.9 billion. In retailing alone, inventories have risen more than twice as fast as sales since the end of last year. Because of excessive stocks of cars, the May ratio of retail inventories to sales hit the highest level of the decade.

That partly explains the growing weakness in the factory sector. Industrial production in the nation's factories, utilities, and mines fell 0.2% in June following a 0.1% decline in May. Output last quarter grew at its slowest pace in nearly three years (chart).

Production of consumer goods has slowed sharply. It fell in both May and June, mainly reflecting lower car output. But the consumer slowdown has also hit suppliers. Materials output, some 40% of industrial production, has fallen in five of the past six months. Output of capital goods, strong through most of the first half, is also slowing: It fell 0.2% in June.

The slowdown in industrial output is starting to ease pressure on production capacity, and this is venting

MANUFACTURING GEARS DOWN



some of the steam behind inflation. Last year, the industrial operating rate rose to a nine-year high in December at 84.3%, fueling price pressures in many industries. So far this year, the rate of capacity utilization has been declining, falling to 83.5% in June.

Moreover, capacity has eased the most where it had been the tightest: in primary processing. The operating rate there soared to 88.4% in January but declined to 85.7% in June. That mainly reflects the slowdown in production of materials.

Operating rates have declined across a broad range of industries. The biggest drops have been in autos, steel, paper, and chemicals. Building products, food processing, and electrical equipment have posted smaller declines, while operating rates in textiles and machinery have actually risen.

INFLATION ISN'T CONQUERED YET ...

Producer prices are already showing the effects of loosening capacity, but more so in intermediate goods than in finished goods. Prices of finished goods edged down 0.1% in June, thanks to big declines in prices for both food and energy, which reversed the large increases posted in May.

Excluding food and energy, prices jumped 0.7%, but that's not indicative of the trend. Onetime jumps in the prices of cigarettes and ships accounted for about half that rise. Before June, prices of nonfood, nonenergy finished goods rose at a 4.3% annual rate during the first five months of the year, the same pace for all of 1988. The rate for the rest of the year is likely to be no worse.

That's partly because price pressures are easing further back in the production chain. Ignoring the volatility caused by food and energy, inflation in intermediate goods has fallen sharply; prices fell 0.2% in June. Last year, these prices rose 7.2%, but during the first half of 1989, their annual rate of advance slid to only 2.9%.

Inflation pressures are easing in a number of indus-

tries. This time last year, prices for paper, chemicals, and steel were rising at double-digit rates. But during the past year, the pace has slowed to 7.1% in the paper industry, to 7.4% in chemicals, and to 5.3% in steel. And those slowdowns intensified in the first half of 1989.

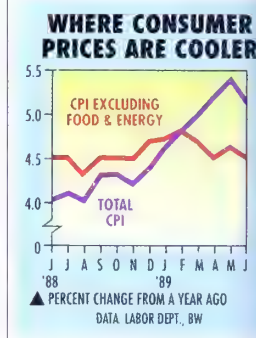
... BUT GOODS PRICES ARE SLOWING

The benefits of the economic slowdown may take a while longer to show up in consumer prices, however. Inflation in finished goods is only now starting to level off. And prospects for getting a rein on inflation in the prices of services, which make up about half of the consumer price index, aren't nearly as bright.

Still, the outlook is improving. The consumer price index rose a modest 0.2% in June, following more worrisome gains of 0.6% in May and 0.7% in April. Big hikes in prices of food and energy fueled those increases, but excluding those two categories, consumer inflation has been stable (chart). A slowdown in food prices and a big drop in energy prices accounted for some of the June moderation, but prices elsewhere also rose only 0.2%.

The weakness in the goods-producing sector shows up in the CPI. Excluding food and energy, the annual inflation rate for consumer goods slowed to 3.1% in the first half from 3.7% in the second half of 1988. Service inflation during the same two periods has run at a steady 5.1% pace, though. The combination of still rapid wage growth and poor productivity growth in services is keeping upward pressure on prices there.

Progress in the goods sector should at least keep consumer inflation stable in the second half. But stable inflation could come only at the cost of a bumpy landing for the economy.



THE WEEK AHEAD

FEDERAL BUDGET

Monday, July 24, 2 p.m.

The federal government will probably post a \$5.5 billion surplus for June, as quarterly corporate and individual tax payments outpace outlays. In June, 1988, the government had a \$9.1 billion surplus. So far in this fiscal year, the budget is \$113.3 billion in the red, an improvement over the \$128.4 billion deficit in the same period in fiscal 1988.

DURABLE GOODS ORDERS

Tuesday, July 25, 8:30 a.m.

New orders for durable goods likely increased by 3% in June. Most of that gain will be for aircraft. Other industries are feeling the pinch from slower consumer

spending and slower growth in exports. In May, hardgoods orders fell 4.5%.

EMPLOYMENT COST INDEX

Tuesday, July 25, 8:30 a.m.

Wage and benefit costs for nonfarm industries in the second quarter probably advanced by about 5%, year over year, faster than the 4.6% yearly gain in the first quarter. Increases in labor costs in service industries, up 5.3% in the first quarter, should outpace cost rises at goods producers, where compensation increased just 3.5% in the first period.

GROSS NATIONAL PRODUCT

Thursday, July 27, 8:30 a.m.

Most forecasters expect that the second-quarter economy expanded at an annual

rate of about 1.8%—a growth rate consistent with the “soft landing” scenario. But growth could be slower if consumer spending was weaker than expected, or if the trade gap widened again in June. First-quarter GNP rose at a 4.4% annual rate, but farming's rebound from the drought added 2.5 percentage points.

PERSONAL INCOME

Friday, July 28, 10 a.m.

Personal income probably rose by just 0.3% in June, the same pace as in May. A decline in farm income will partially offset a small increase in wages and salaries. Consumer spending in June most likely edged up by 0.2%, after rising 0.3% in May. Service and nondurable goods spending will lead that gain.

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JULY 31, 1989

TIME-WARNER: THIS CLOSE TO VICTORY

BUT MANAGERS WILL HAVE TO ACT FAST TO WORK DOWN DEBT

It's still too early for the battalions of Time Inc. and Warner Communications Inc. lawyers, bankers, and other partisans to pack their attaché cases, collect their fees, and head for Southampton. But forgive them if they take a moment to crow. They won a sweet victory on July 14 when Delaware's Chancery Court delivered the judicial equivalent of a knockdown punch to Paramount Communications Inc.'s attempt to destroy Time and Warner's merger plans.

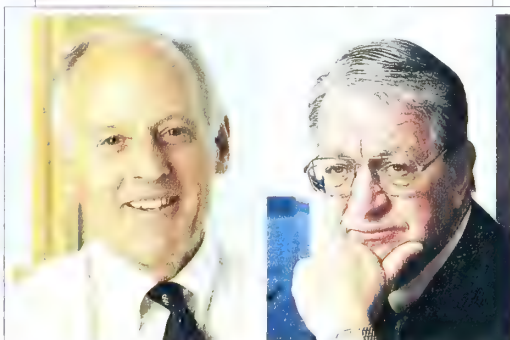
Bruce Wasserstein, a Time investment banker and perhaps the decade's top merger strategist, had special reason to stand up and cheer. After listening to Delaware judges harshly criticize his firm for its hard-

ball plays in two earlier cases, Wasserstein had finally won a court ruling he could love. He hailed the court's decision as "very flattering to the board of Time and to the process they followed."

Wasserstein's measured, diplomatic

tone reflects more than just a keen awareness of whose cash keeps Wasserstein Perella & Co. in English shoes and French cuffs. As the celebrations wind down, Time and Warner have lots of work—and worrying—to do. Although the odds are low, Paramount Chairman Martin S. Davis could return with a bid for a newly merged Time Warner Inc. And even if Davis walks away, prospective co-chief executives Steven J. Ross and J. Richard Munro, along with President Nicholas J. Nicholas Jr., will likely begin selling assets to make next year's payments on the company's debt of up to \$15 billion. The payments come to an estimated \$1.6 billion.

Moreover, there's no ruling out the



MUNRO: VINDICATED

DAVIS: HE MAY BE BACK

possibility that after Delaware's Supreme Court hears Paramount's appeal on July 24, it could overturn Chancellor William Allen's decision. But don't count on it: The high court, led by Justice Andrew G. T. Moore II, has been a bit more protective of management than Allen and the lower court's other chancellors (see p. 10). And in this case, Allen left no doubt that he stood with Time's officers and directors on Paramount's two chief arguments in its attempt to block the Time-Warner combination.

Allen first concluded that Time had not put itself up for sale after announcing on Mar. 4 its original plan to merge with a stock swap with Warner. Time could have had to hold an auction and seriously consider the Paramount bid if the judge had decided that the March 4 offer effectively put Time on the block. Allen also might have halted the deal if he felt Ross had snookered Munro into giving control of Time to Warner.

Allen additionally ruled that Time hadn't overreacted to the Paramount threat. On June 16, Time's directors eliminated the need for a shareholder vote on the merger by scrapping the stock swap with Warner. Time chose instead to buy Warner and its movie, music, and cable operations outright for as much as \$14 billion, or \$70 a share, a move which under Time's bylaws didn't require a vote of stockholders. That second Time-Warner deal, Allen found, had its origins in Time's "bona fide strategic business planning and not in questions of corporate control." Had Allen decided differently, Time investors then might have been free to grab Paramount's offer of \$200 a share.

WISHPFUL THINKING. Some investors in Time, who are sharply disappointed in Allen's ruling, hope that Davis might throw all caution aside and make a bid for Time-Warner. "Paramount didn't go through all this to quit now," says one major Time shareholder. That may be wishful thinking. All Davis has said is that he wouldn't pay \$200 a share for the debt-laden conglomerate. Such an offer could wind up costing \$30 billion.

He might be tempted to lunge after Time-Warner if he were to line up buyers for some of the resulting company's biggest properties, particularly those that might give him antitrust problems. Paramount competes with Time and Warner with a leading movie and TV studio and the country's biggest book publishing house. The Warner movie and TV operation, for example, might fetch \$6.6 billion, while Time and Warner's book publishing companies could go for \$1.6 billion, figures analyst Raymond L. Atz of Mabon, Nugent & Co.

If Davis does want to move against Time-Warner, analysts speculate further that he would wait until takeover fe-

ver—and the price of Time-Warner stock—subsides. Although analysts have different views on where the price of Time-Warner stock might settle, several put it at around \$140 or more. More likely, Davis will decide to buy or try a joint venture with a company such as Tribune, MCA, Columbia Pictures, Dun & Bradstreet, Houghton Mifflin, or McGraw-Hill, publisher of *BUSINESS WEEK*.

It's also possible that Paramount

could do business with a surprising newcomer—Time Warner—if Ross and Munro decide to sell some properties to help cut the company's debt and lift the value of their stock. The executives have insisted that they wouldn't have to sell anything once they merge, but they've issued strong hints to bankers that they'll choose to unload units that aren't central to the new company.

The most promising candidates at

THE BETTING IS THAT JUDGE MOORE WON'T STOP TIME

Early on Saturday, July 15, the morning after the Delaware Supreme Court agreed to hear Paramount's appeal in the Time case, Justice Andrew G. T. Moore II decided to mow the lawn before heading for work. The lawn mower broke three times before Moore gave up. He says he was preoccupied: "I don't think my mind ever left this case."

Moore has lots to ponder in a little time. The court is expected to decide by July 24 whether a lower court judge rightly allowed Time's tender offer for Warner to go ahead. The spotlight is on Moore because he has written the big takeover decisions in recent years.

Moore, 53, will be joined on the bench by Henry R. Horsey, 64, and Randy J. Holland, 42. Neither is a lightweight. Yet it's the tough, persuasive Moore who counts. Says takeover lawyer and Time adviser Arthur Fleischer Jr.: "He is the spokesman for Delaware corporate law and corporate law in general."

Moore built his name in Delaware, the nation's preeminent forum for corporation law, one step at a time. Born and educated in New Orleans, the justice first found himself in Delaware during a tour of duty in the Air Force. He returned in 1962 as law clerk to then-Chief Justice Charles L. Terry Jr., who became his mentor. Terry not only talked Moore into staying in the state but also advised him on which firm to join.

PROMANAGEMENT. For the next 18 years, Moore honed his skills as a corporate litigator at the Wilmington firm of Connolly, Bove, Lodge & Hutz. In 1970, he ran for the attorney general's office. Although he lost, Pierre S. du

Pont IV, then running for Congress, took notice. When Republican du Pont became governor, he named Moore, a Democrat, to the state's top court. There, he earns \$95,200—a pittance next to the megasalaries of the lawyers arguing before him. His 12-year term ends in 1994.

Once on the court, his training and promanagement leanings quickly became apparent. In 1984, he wrote two opinions that, he says, "definitively" set the standards for applying the business judgment rule, which gives corporate boards broad latitude in directing businesses. Importantly, he expressly extended the rule to takeovers.

A year later, Moore wrote the landmark Unocal decision. When reviewing Unocal Corp.'s efforts to fend off raider T. Boone Pickens Jr., Moore created a new standard for evaluating antitakeover maneuvers. It requires a court to determine if a company's response to a takeover threat is reasonable before applying the business judgment rule. And it's that standard he'll most likely apply when evaluating the judgment of Time's board.

Moore doesn't hesitate to disagree with lower courts—or to rule against management. Last fall, he reversed a lower court and stopped Macmillan Inc. from conducting a management-sponsored buyout, while blasting Macmillan directors and investment bankers for acting unfairly.

How Moore and his fellow judges will rule isn't something they can discuss. But analysts and lawyers are betting they'll uphold the business judgment of Time's 12 directors. Until then, Moore's lawn will just have to wait.

By Michele Galen in Wilmington



JUSTICE ANDREW MOORE

Time include those operations that the company bought in recent years. Since they would have a fairly high book value, Time Warner wouldn't have to record large, taxable capital gains. Bankers believe Munro and Nicholas will revive efforts to sell their Scott, Foresman & Co. textbook unit. The company bought the operation in 1986 for \$540 million and tried to sell it last year for about \$800 million. On the magazine side, Time—which has its sights on overseas business—could make as much as \$700 million by selling its highly profitable Southern Progress Corp. subsidiary. The group publishes six magazines mostly aimed at readers in the South, such as *Southern Living*, and offers books about the region through Oxmoor House Inc.

BELT-TIGHTENING. Other Time outfits should also prepare for new rounds of belt-tightening. Company managers have already said that they could cut costs as much as \$100 million, according to Wasserstein Perella & Co. The bankers also testified to the Delaware courts that they believe those estimates are conservative.

Don't expect equally big asset sales or budget cuts at Warner, whose entertainment engine is expected to propel the merged company's future growth. But Ross could unload some real estate in Los Angeles and New York, along with Warner's investment portfolio, which includes holdings in Hasbro, Atari, Viacom, Berkey, and the Franklin Mint. Time Warner might pick up as much as \$800 million if it sold these holdings. Warner might also sell its minority stake in the BHC Inc. TV station unit back to majority owner Chris-Craft Industries Inc. There's a new focus on such a deal since July 18 when Warner and Chris-Craft settled a suit over how Chris-Craft will be paid for its 17% stake in Warner.

While asset sales might make Time Warner stock more attractive, Time investors clearly don't believe that there's much of a chance that they'll have another opportunity to see \$200 a share in the near future. Time stock plummeted after Allen announced his decision. On July 19, it closed at 139%.

That leaves Time Warner with an audience full of scowling, restless shareholders. One of them, Heine Securities President Michael F. Price, complains: "The shareholders had no say whatsoever." Ross, Munro, and Nicholas won't have much time to win over the crowd once the Time Warner show makes its premiere. As Price warns: "It's up to them whether they become vulnerable again."

By David Lieberman, with Michele Green, in New York

Commentary/by Judith H. Dobrzynski

FROM ONE DECISION FLOW A LOT OF HARD LESSONS

Shareholders and economists are aghast. Chief executives and corporate planners are cheered. Directors are feeling vindicated—and more powerful. And attorneys are eagerly trying to figure out how best to apply the decision of Delaware's Court of Chancery in *Paramount Communications Inc. vs. Time Inc.*

Chancellor William T. Allen set no new law when he refused to block Time's plan to buy Warner Communications Inc. Essentially, he reaffirmed the business judgment doctrine, which grants wide discretion to directors to decide corporate policy. But his language shocked many shareholders, who believe that directors represent them. "The corporation law does not operate on the theory that directors, in exercising their powers to manage the firm, are obligated to follow the wishes of a majority of shares," Allen wrote. His stark assertion that boards can ignore shareholders will deeply affect U.S. business. Some key implications:

■ **The business judgment rule, in itself, is sound.** Shareholders must delegate authority to directors to oversee management. It would be chaotic if shareholders took legal action every time they disagreed with corporate policy. In this case, Allen ruled that it was reasonable for Time's directors to choose to merge with Warner rather than take the \$200-a-share bid from

Paramount. The judge looked at how Time's directors made their decision, then determined that their reasoning was not so outrageous that he should overrule it. Allen didn't determine what was right, only what was legal.

■ **It's a mistake to infer too much from the Time ruling.** This battle has little in common with other hostile takeover tries. Key to Allen's decision was the fact that Time had announced a plan to merge with Warner before Paramount made its bid—so the deal had a well documented, independent business purpose. It was not strictly defensive.

Cynics thus see the ruling as a great boost to strategic planners, whose status has declined in recent years. In fact, at least one prominent attorney has already advised clients as follows: If you have a documented strategic plan in place and a raider appears on the scene, you're in a better position to implement your plan free of interference. While this may be constructive, in some cases it will merely mean establishing a paper trail for all sorts of contingencies—except, of course, anything suggesting that management would consider a leveraged buyout or leveraged recapitalization. The court has determined that they can be equivalent to a change in corporate control.

■ **Allen's decision doesn't endorse the "just say no" defense.** Says investment banker Roger Altman of the Black-

TWISTS AND TURNS IN THE TUSSE FOR TIME



stone Group: "The whole case is not relevant to most companies that are attacked by bidders with full prices and a fully financed deal." Furthermore, Allen specifically noted that he did not rule on Time's poison pill. In two recent cases, Delaware has ordered boards to rescind poison pills and let shareholders decide between fully financed tender offers and whatever alternative management has devised. This ruling doesn't change that.

The offer price matters. The decision might have been different had Paramount bid much higher. Allen considered whether Time's long-term strate-

The inevitable result is more contentiousness. "The whole idea of shareholders having no say is repulsive," says Robert S. Pirie, president of Rothschild Inc., investment bankers. Boards that make decisions with one eye on the courts instead of on shareholders will force shareholders to use the only governance tool they have—the right to vote their shares. If they don't like what directors are doing, they can attempt to vote them out. But this is cold comfort: It comes after the harm has been done, it's costly, and it's unproductive.

The courts could help solve the prob-

lem. In applying the business judgment

rule, they usually presume that directors are acting in the best interest of shareholders. Yet in Time's case, for example, only incredible arrogance would suggest that directors know what's better for shareholders than they do themselves. In reality, Time's directors—like those at many other companies—were probably too quick to go along with managers sitting in the same boardroom. And they relied too heavily on data from management.

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The courts could fix that by looking more closely for signs of management entrenchment and conflicts of interest. So far, judges have dealt with those issues as if they were pornography: They say they know it when they see it. But they don't always. Even in dealing with management-sponsored leveraged buyouts, for example—where the CEO represents both buyer and seller in a clear conflict—the courts have yet to mandate the creation of a special panel of outside directors to ensure that the sale process is fair. And all takeovers

contain the potential for conflicts. The Time-Warner deal is a case in point. It has many characteristics that suggest it is a "management-sponsored transaction" that is good for management but not for shareholders. Among those characteristics: a stock swap between Time and Warner that made competing deals difficult; an unwieldy management structure that gives the CEO job to the current CEOs of both companies and insures the succession of Time President Nicholas J. Nicholas; a hefty management-compensation package; the payment of fees to banks to forestall their funding of competing

to merge with Warner could result eventually in a stock price near \$200. Concluding yes, he declined to second-guess directors. But he might have found otherwise if Paramount had offered, say, \$260 a share. Some experts, such as Gregg Jarrell, a former Securities & Exchange Commission chief economist who teaches at the University of Rochester, even believe that Paramount could restart the whole process with a higher bid conditioned on Time's abandoning its Warner deal. Directors would then have to reexamine their fiduciary duties.

There may be a modest increase in stock-swap mergers. Since Allen ruled that they are not equivalent to a sale of the company, some managers will feel freer to attempt preemptive mergers, safe in the knowledge that they are not putting themselves in play. And some companies—in pharmaceuticals or high technology, for example—that avoided cash deals because the balance sheet damage was too great may now reconsider mergers.

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Until courts are ready to examine such questions more closely, shareholders will have to exert pressure by paying much more attention to board composition and board performance. Short of changing the law to give them prior review of major management actions—takeovers, big asset sales, important changes in strategy and in capital structure—shareholders will have to speak up more forthrightly and more often. Otherwise, what recourse is there? That shareholders should be allowed to sue Time's directors if, in a few years, the company's stock never comes close to \$200 a share?

The Delaware Supreme Court may yet weigh in with a different view. Unless it does, the battle between management and shareholders is likely only to get more intense.



CHURNING OUT EARNINGS AS THE ECONOMY STARTS TO SLOW

Gannett and Amgen are counting on recession-resistant niches to ride out a downturn

As corporations report their results for the second quarter, there's lots of anxiety on Wall Street over the potential damage a slowing economy may do to earnings. Two companies hoping to avoid such trouble—by filling recession-resistant niches—are Amgen Inc. and Gannett Co.

A BIOTECH BONANZA

All of a sudden, Amgen Inc. is a pharmaceutical company. After nine years of juggling test tubes and making pilgrimages to Washington, Amgen on June 1 won the Food & Drug Administration's approval to market its genetically engineered brand of erythropoietin, better known as EPO, for the treatment of anemia in kidney-dialysis patients. On June 2, Amgen

the quarter before, Amgen had lost \$9 million. Revenues hit \$30.2 million, a 55% jump. "A lot of it's pipeline filling," says Viren Mehta of Mehta & Isaly, a drug industry consulting firm, "but it's not a flash in the pan" (chart). None of this is news to Wall Street, which has bid up Amgen shares above 45, from around 30 at the start of the year.

DUAL DUELS. Amgen's version of the drug, called Epogen, should add at least \$80 million to revenues this year, Wall Street analysts figure, and double that next year. It's not just Street talk: In late June, after approving EPO for Medicare reimbursement, the federal government's Health Care Financing Administration figured that supplying kidney patients will cost \$300 million a year.

For now, Amgen has the market to itself. But the company is embroiled in a pair of debilitating legal wrangles that will resume next month. On Aug. 7, it goes to court in Boston against Genetics Institute Inc., which also holds an EPO patent. GI's product, licensed to a joint venture of Upjohn Co. and Japan's Chugai Pharmaceutical Co., is awaiting FDA approval, which is expected before the end of the year. For its part, GI hopes eventually to grab half of the market.

Also next month, arbitration is set to begin in a dispute with Amgen's U.S. marketing partner, Johnson & Johnson's Ortho Pharmaceutical Corp. To raise cash for research, Amgen in 1985 sold Ortho the rights to make and market Epogen in Europe and for nondialysis patients in the U.S. Among other issues, the arbitration panel will determine what profits Amgen can

extract on bulk sales of Epogen to Ortho and how the two companies will compensate each other for sales in each other's markets.

NEXT TRICK. In any event, analysts figure that Amgen has a huge head start. "Even if Chugai-Upjohn gets quick approval, it will always be a minority player," Mehta says. Adds analyst Teena L. Lerner of Shearson Lehman Hutton Inc.: "There's no more challenge for Amgen in EPO."

Amgen's next trick is getting its second drug to market. It's called Neupogen, and it helps cancer and AIDS patients generate the white

blood cells needed to ward off infections. Amgen hopes to apply for approval next year. A go-ahead probably is more than a year away. But unlike Epogen, Amgen holds the sole patent and hasn't needed to license away the bulk of the market.

By Larry Armstrong in Los Angeles

MCPROFITABILITY

These are tough times for many newspapers. A slowing economy and stiffer competition from other media mean minimal growth for advertising space. That has led to some rate-cutting, which

A SAMPLE OF SECOND-QUARTER PROFITS

Prices and trading on Wall Street escalated, and that buoyed two big retail firms, Merrill Lynch and Charles Schwab. The good times, however, didn't roll up the street to Morgan Stanley, where margins narrowed sharply and profit sank 17% despite a 45% jump in sales.

Genentech also suffered skimpier margins, resulting in a sharp 38% drop in profit. At Apple Computer, narrower margins meant profit advanced just 5% on a 26% sales gain. IBM, by contrast, saw margins widen and net soar, as did Tandem Computers.

Coca-Cola posted a smart 14% gain in profit on 5% higher sales. But its bottling affiliate, Coca-Cola Enterprises, saw both sales and earnings edge down a bit. At Adolph Coors, narrower margins meant a 13% decline in profit despite higher sales.

ABBOTT LABORATORIES
ADVANCED MICRO DEVICES
AFFILIATED PUBS.
ALUMINUM CO. OF AMERICA
AMERICAN HOME PRODUCTS

AMGEN
APPLE COMPUTER
BOISE CASCADE
CASTLE & COOKE
CBS

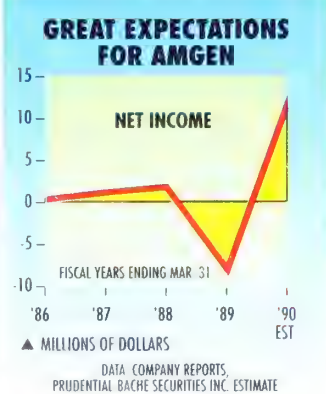
CINCINNATI MILACRON
CLEVELAND-CLIFFS
COCA-COLA
COCA-COLA ENTERPRISES
CONAGRA

COOPER TIRE & RUBBER
COORS (ADOLPH)
CORNING
CPC INTL.
CSX

DOW JONES
E-SYSTEMS
FEDERAL NATL MTGE. ASSN.
FOOD LION
GANNETT

GENENTECH
GENERAL DYNAMICS
GENERAL ELECTRIC
GRACE (W.R.)
GREAT NORTHERN NEKOOSA

GTE
IBM
INTERGRAPH
INTL. PAPER
LILLY (ELI)



shipped the first commercial batch to UCLA Medical Center. And by the end of the month, Amgen had sold close to \$17 million worth. Before, about the only thing Amgen had ever sold was research contracts.

That allowed the fledgling Thousand Oaks (Calif.) biotech company to report earnings for the first quarter ended June 30 of \$835,000, up 174% from a year ago. Only

ing with flat industrywide circulation, turns into lower profits.

Not so at Gannett Co., the Washington (D.C.)-based media giant that is the nation's largest newspaper group. Net income jumped 14.9% in the second quarter, to \$112.1 million, on a 6.7% revenue gain.

ISOLATED. Credit the good news to lower newsprint costs and rising ad revenues at the nation's national daily, *USA Today*. Dubbed McPaper by critics of its bite-size journalism, the seven-year-old paper saw its first second-quarter profit and the number of ad pages rise 5%. Linage grew despite an increase in ad rates of roughly 7%, effective Apr. 1. More ads and higher rates, which had been held down as *USA Today* established itself, boosted quarterly revenues 5%. "All of that falls straight to the bottom line," notes John Morton, president of his Washington-based newspaper research firm.

USA Today isn't Gannett's only second-quarter story. Its other papers also did well, es-

pecially in the Midwest and South. Those economies have not yet felt the slowdown now gripping the Northeast. Circulation revenues grew 4% companywide, in sharp contrast to the rest of the industry. And the papers' locations insulate Gannett from sharp gyrations in ad income. "Their papers tend to be in small and middle markets," notes First Boston Corp. media analyst Kevin Gruneich. "There's less exposure to cyclical turns in classified ads."

With other newspaper-dependent companies reporting poor results—Dow Jones & Co., publisher of *The Wall Street Journal* and the Ottawa Newspapers Inc. chain of small-city papers, saw net fall 2.3% in the quarter—Gannett's second period appears all the more impressive. Chairman John J. Cur-



USA TODAY: MORE ADS AND HIGHER RATES

ley's toughest challenge will come in the fourth quarter, the bellwether for most media companies that rely heavily on holiday advertising.

The key will be *USA Today*. It has been profitable in the

past two fourth quarters. But it's also heavily dependent on automobile ads, and car sales are slumping. And despite the weakening economy, the paper plans to hit advertisers with yet another rate hike on Oct. 1. How much of one has not been determined. "We seem to be on target for a profit for the year or a small loss," says Curley. Gannett's broadcasting properties have been sluggish, posting a meager 4% increase in revenues in the second quarter. Its 16 TV stations are running flat, and only strength in radio revenues let the segment grow at all.

Even if the economy keeps cooling, Curley may be able to continue Gannett's two-decade string of higher earnings. But the second quarter's double-digit jump will be a lot harder to match.

By Tim Smart in Washington

Profits \$ mil.	% chg. vs. 1988	Margins	
		1989	1988
212.6	+15	16.1	15.1
12.1	-54	4.4	8.5
12.4	-23	9.0	11.5
285.2	+20	10.3	9.5
236.7	+10	16.9	15.7
.8	+174	2.8	1.6
96.1	+5	7.7	9.2
75.3	+4	6.9	7.2
35.2	-6	5.1	6.0
118.8	-8	15.4	17.4
4.0	-32	2.1	3.0
17.9	+20	15.5	13.5
345.5	+14	14.2	13.1
38.8	-5	3.6	3.7
65.4	+42	2.2	1.8
15.1	+54	6.6	5.3
16.9	-13	4.0	5.0
69.4	-14	12.0	16.2
83.1	+15	6.6	5.9
130.0	NM	6.6	NM
48.4	-2	11.0	12.0
19.4	+1	4.9	5.3
193.0	+60	6.8	4.6
32.0	+16	3.0	3.2
112.1	+15	12.4	11.5
9.6	-38	10.2	18.0
58.4	+25	2.3	2.0
972.0	+16	7.2	7.0
44.6	-24	3.0	4.0
90.2	+6	9.1	10.0
329.0	+10	7.7	7.1
1,340.0	+39	8.8	6.9
20.4	-13	9.3	11.5
229.0	+22	7.6	7.9
217.1	+20	19.4	17.8

	Sales \$ mil.	% chg. vs. 1988	Profits \$ mil.	% chg. vs. 1988	Margins	
					1989	1988
LOUISIANA-PACIFIC	526.1	+11	48.4	+23	9.2	8.3
MARRIOTT	1,887.0	+11	67.0	+4	3.6	3.8
McGRAW-HILL	482.2	+9	50.8	+13	10.5	10.1
MCI	1,594.0	+31	150.0	+142	9.4	5.1
MEAD	1,207.4	+4	62.2	-15	5.2	6.3
MERRILL LYNCH	3,138.3	+26	70.2	+31	2.2	2.1
MONSANTO	2,348.0	+4	241.0	+10	10.3	9.7
MORGAN STANLEY	1,516.1	+45	112.1	-17	7.4	12.9
MOTOROLA	2,385.0	+14	154.0	+28	6.5	5.7
NCR	1,527.1	+2	110.4	-2	7.2	7.5
OWENS-CORNING	721.0	-2	54.0	0	7.5	7.3
PHILIP MORRIS	11,595.0	+46	745.0	+22	6.4	7.7
POTLATCH	296.1	+11	25.7	+5	8.7	9.2
RAYTHEON	2,290.0	+12	133.7	+9	5.8	6.0
RUBBERMAID	333.6	+18	28.2	+16	8.5	8.6
SCHWAB (CHARLES)	139.0	+45	4.2	+100	3.0	2.2
SERVICE MERCHANDISE	716.9	+7	13.9	+72	1.9	1.2
SHERWIN-WILLIAMS	584.0	+7	38.7	+7	6.6	6.6
SONOCO PRODUCTS	415.4	+1	28.6	+9	6.9	6.4
STUDENT LOAN MKTG	829.2	+57	62.5	+14	7.5	10.4
TANDEM COMPUTERS	2,348.0	+4	241.0	+10	10.3	9.7
TELEDYNE	1,159.3	+4	46.8	-31	4.0	6.1
TELERATE	126.7	+16	21.8	-6	17.2	21.3
TEMPLE-INLAND	476.6	+6	52.9	0	11.1	11.8
TIME	1,218.0	+11	94.0	+12	7.7	7.6
TRIBUNE	643.1	+5	69.2	+9	10.8	10.4
TRW	1,844.0	+1	70.0	-1	3.8	3.9
UNITED TECHNOLOGIES	5,300.0	+18	197.3	+1	3.7	4.4
UNITED TELECOM	1,852.7	+19	90.5	+138	4.9	2.4
UPJOHN	736.5	+2	94.6	+8	12.8	12.2
WARNER-LAMBERT	1,024.7	+8	112.4	+23	11.0	9.6
WESTINGHOUSE ELECTRIC	3,177.7	+4	228.3	+6	7.2	7.1
WESTWOOD ONE	29.5	+2	-6.6	-1043	-22.4	2.4
WEYERHAEUSER	2,644.0	+8	154.9	+3	5.9	6.2
WHITMAN	935.8	+13	45.3	+30	4.8	4.2

NM = not meaningful

DATA: STANDARD & POOR'S COMPUSTAT SERVICES INC.

Commentary/by Richard Fly and Blanca Riemer

MELLOW GEORGE AND THE DON'T WORRY, BE HAPPY SUMMIT

Soviet leader Mikhail S. Gorbachev is the acknowledged master of the "charm offensive," but at the July 14-16 Paris economic summit, George Bush showed that he, too, could play the game. In a studiously low-key performance, the President turned the annual gathering of the leaders of the West's principal economies into a love fest largely by steering clear of divisive economic issues.

As a result, the leaders of the U.S., France, Japan, West Germany, Britain, Canada, and Italy left the summit with self-satisfied smiles, fond memories of Gallic pomp—and precious few economic commitments. They agreed on modest aid for Poland and Hungary. They pledged action on the imperiled environment. And they gave a boost to Treasury Secretary Nicholas F. Brady's plan to help debt-strapped Third World nations. When it came to such touchy subjects as rising inflation, protectionism, and the flagging U.S. economy, the summiteers took a cue from Bush and muted their differences.

Bush's decision to play genial toastmaster wasn't accidental. He approached the meeting much as he did the Democratic-controlled Congress, stressing consensus over confrontation. That allowed him to draw a sharp contrast with Ronald Reagan.

NO LECTURES. While the allies came to grudgingly admire the Gipper, they chafed under his ideological rigidity. In Paris, Bush was deliberately un-Reaganesque, eschewing lectures on the evils of government and paeans to "the magic of the marketplace."

Bush's Group of Seven counterparts loved the new style. "There have been some changes in U.S. thinking," said Toyoo Gyohten, Japan's vice-minister for finance. There were similarly kind words for Treasury chief Brady. "Very practical fellow," noted one top financial official. "He's not the type to go in for flag-waving or imposing regimentation over different economies."

Just how accommodating was Bush in Paris? Very. Although the U.S. has been pushing the idea of economic aid for Eastern Europe, the allies were reluctant to let the U.S. direct the effort. So Bush accepted a proposal by West German Chancellor Helmut Kohl to

hand the program over to the European Commission.

The President also decided not to debate nettlesome macroeconomic policy issues. The U.S. economy is braking sharply—too sharply, according to some analysts. But Germany and Japan are too busy ratcheting up interest rates to pick up the slack.

Rather than trying to whip the allies into line behind a U.S. position, Bush



BUSH IN PARIS: NEXT YEAR, THE TOUGH STUFF

agreed that Japan, Germany, and Britain will go on fighting inflation while the U.S. will concentrate on sustaining growth. Says Japan's Gyohten: "It's up to every individual country to tackle the biggest problem it has." Adds a U.S. summit planner: "Why get all worked up about future troubles when everyone is feeling so good?"

Bush's flexibility delighted France's Socialist leaders, who had long ago tired of Reagan's constant proselytizing. Bush looked on benignly as the French purged the communiqué of capitalist taint. "They removed all references to 'deregulation,' 'competitive forces,' and 'the free market,'" smiles an unperturbed U.S. official.

Such noblesse oblige wasn't all calculated, of course. Some of it represents Bush's desire to get off on the right foot with his summit partners—and to build goodwill for the international schmoozathon he'll host next year, possibly in Texas.

Still, as the G-7 leaders filed out of Paris, there were nagging doubts about just what was accomplished. Thanks to George Bush, harmony reigned in Paris. But an important opportunity to get the West's diverging economies in sync may have been lost.

MARKETING

QUAKER OATS' PET PEEVE

Its Gaines line is slipping in a dog-eat-dog world

These days, in the never-ending battle for the loyalty of pet owners, Quaker Oats Co. looks like, well, a dog. Marketing and operating blunders, made worse by red-hot competition, have scuttled the big plans the Chicago food giant had in late 1986, when it bought Anderson Clayton & Co. just to get its hands on the Gaines dog-food line.

After selling off the rest of Anderson Clayton, Quaker wound up paying \$225 million for the dog-food operation. That seemed a fair price when pet food looked like a growth business. But now, Quaker is struggling simply to shore up the unit's U.S. operating margins, which sank from 8% in 1986 to 6% last year.

BIG HEADACHE. Those pet peeves are part of what prompted Chairman William D. Smithburg to shuffle executives and management duties at Quaker Tower on July 12, say company insiders. Smithburg denies the reports. With Quaker President Frank J. Morgan scheduled to retire in October, 1990, Smithburg merely wanted "to give several managers broader responsibilities," he says. "It's a succession issue." In a key change, Smithburg named Philip A. Marineau to the newly created position of executive vice-president for U.S. grocery products. Marineau, who had been running Quaker's international operations, will oversee the company's core businesses. With Gatorade, cereals, and other major food lines humming along, pet food will be his biggest headache.

The troubles with pet food have punched a hole in corporate earnings. Since buying Anderson Clayton, Quaker has taken \$112 million in charges related to the pet-food business. In the fiscal year ended June 30, \$91 million of those charges, plus about \$61 million in write-offs related to plant consolidations, layoffs, and a change in accounting methods, led to a 14% drop in net earnings, to \$220 million, on a sales jump of 10%, to \$5.9 billion, says John M. McMillin, a food-industry analyst for Prudential-Bache Securities Inc. Since fiscal 1987, corporate operating margins have slid from 11.2% to about 10%.

Quaker started out with high expectations for pet food. The potential seemed huge: After cereals, pet food is the second-largest line for supermarkets, gen-

ating \$5.5 billion in 1988 sales. In the early days after the deal, company executives predicted double-digit operating margins.

The Anderson Clayton deal, figured Quaker, would give it the momentum it needed to achieve those returns. By adding the Gaines and Cycle lines to Quaker's Ken-L Ration and Kibbles 'n Bits brands, the company doubled its market share to 14% and jumped from No. 5 to No. 2, behind Ralston Purina Co. It also boosted pet food to 25% of total company revenues.

But sales in dog food have been flat for several years. Cats have supplanted dogs as the pet of choice for Americans. At the same time, many dog owners are passing supermarkets to buy premium food in specialty stores. As a result, industry sales in dry and semi-moist dog food—Quaker's biggest niches—have dropped 8.6% and 28.9%, respectively, since 1986. And the Anderson Clayton deal didn't carry quite the cachet that Quaker expected. Admits Smithburg: "We put a lot of money in restaging brands," including reformulating the food and creating new packaging and advertising programs.

RECT ATTACK. Just as damaging, Quaker's effort to jump-start established products distracted it from opportunities in growing segments such as dog snacks. "They tried everything in the world to revitalize semi-moist. None of the new flavors have gone over," says a pet-food buyer for a California supermarket chain. A flood of new dog-food products and stepped-up promotions and advertising, especially from Ralston, also hurt. In fact, Ralston introduced two products aimed squarely at Quaker: a semi-moist product called Moist & Meaty and Purina Grrrravy, an unabashed knockoff of Gaines's Gravy Train. The results have been startling: While still the leader in semi-moist, Quaker's sales have plunged 16.4% while Ralston's have jumped 16% since 1986.

Clearly, the Anderson Clayton acquisition hasn't lived up to its promise. Carnation Co., maker of Friskies cat food, lapped past Quaker in 1988 to become the No. 2 pet-food maker, with a 14.1% share to Quaker's 13.2%. There's little chance for improvement in that measure this year. But higher returns—not growth—is the priority, says Smithburg. "We want margins to reach 'close to double digits within a few years.'"

That job falls to Marineau, 42. In five years, the marketing whiz turned Gatorade from a regional brand into Quaker's best-selling product, with \$350 million in 1988 sales. Marineau isn't expected to work a similar miracle with pet food. Just getting the dog-food business to stop nipping at profits will likely suffice.

By Lois Therrien in Chicago

TAKEOVERS

UNILEVER IS ALL MADE UP, WITH EVERYWHERE TO GO

The Fabergé deal makes it a top global player in cosmetics

When the world's largest consumer products company decides to expand its presence in an industry, it doesn't fool around. Witness the latest plunge into perfume and cosmetics by Anglo-Dutch giant Unilever. In recent weeks, Unilever has spent \$2 billion on three cosmetics acquisitions, the largest being an agreement revived on July 13 to buy Fabergé Inc.

and Elizabeth Arden Inc. from financier Meshulam Riklis for \$1.55 billion.

Assuming the Riklis deal goes through, Unilever will leap from its middle-ranking position to run neck and neck with Japan's Shiseido Cosmetics Ltd. as the world's second-largest cosmetics group, behind France's L'Oréal. And in the \$5 billion U.S. prestige cosmetics and fragrance business, Unilever will grow from a tiny presence to the third most powerful marketer, behind Estée Lauder Inc. and L'Oréal's Cosmar (table).

What's a company better known for Imperial margarine and Wisk detergent doing in the rarefied atmosphere of the perfume counter? Long a player in the broader field of personal products, which includes shampoos and toothpaste, Unilever has targeted the beauty business as a growth

area. The acquisition of Chesebrough-Pond's Inc. in 1987 was one big step in that direction. But Chesebrough's mass-market Prince Matchabelli perfumes and Pond's cold cream left Unilever without much presence in the high-margin prestige segment—the \$200-a-ounce perfumes and \$40 wrinkle-retarding face creams hawked at department-store counters.

UPPER CRUST. The action in that market is too hot to miss, says Unilever. By its own estimate, the prestige category accounts for a third of worldwide sales and more than half of perfume sales, with the entire worldwide prestige market valued at \$8 billion annually and growing 10% a year. And the margins are a thing of beauty. Compared with Unilever's overall 10% operating margins on all personal products last year, Fabergé and Arden last year had margins of 12%. Analysts guess Unilever can raise those figures to 15% and 20%, respectively. They also argue that while cosmetics in general is a slow-growth industry, with profitability falling for the past



WHO'S WHO IN THE BEAUTY BUSINESS

1988 shares of the \$5 billion U.S. prestige cosmetics and fragrances market

Manufacturer	Brands	Market share
ESTÉE LAUDER	ESTÉE LAUDER, CLINIQUE, PRESCRIPTIVES	37.8%
COSMAIR	LANCOME, BIOTHERM, DESIGNER FRAGRANCES	13.4
UNILEVER	ELIZABETH TAYLOR'S PASSION, CALVIN KLEIN FRAGRANCES, * ELIZABETH ARDEN*	8.3
REVLON	REVLON, PRINCESS MARCELLA BORGHESE, OTHERS	8.2
AVON	GIORGIO, OSCAR DE LA RENTA, OTHERS	5.3

*Pending Unilever acquisitions
DATA: MOTTUS & ASSOCIATES



UNILEVER: FROM WISK TO PASSION PERFUME

decade, consolidation under players such as Unilever will increase savings and boost profitability.

That's why Unilever was ready to deal when Riklis approached the company early this year about selling Fabergé and Arden, one of the last prestige names available. But the sale foundered in May after Riklis tried to raise the agreed-upon \$1.55 billion price tag—to around \$2 billion, industry sources say. He returned with his original offer in early July, and two weeks later, he and Unilever had come to terms.

If the deal is consummated, Unilever will be a power at department-store cosmetics counters. Elizabeth Arden is a venerable company with a loyal, if shrinking, customer base. Complementing Arden's rather stately image is Minnetonka Inc.'s Calvin Klein fragrance operation, which Unilever bought for \$306 million in early July. The steamy advertisements for Klein's Obsession perfume have made it a huge hit in the U.S.—at \$175 an ounce.

CULTURE SHOCK. Moving into high-price fragrances represents something of a cultural leap for Unilever. "Perfume is a delicate, fragile business that calls for a little spirit of adventure," says Maurice Roger, chairman of Parfums Christian Dior in Paris. "It's hard to have this mentality and a mass-market culture in the same company." He notes that Colgate-Palmolive Co. failed to make a go of Helena Rubenstein Inc. in the 1970s and eventually sold at a loss.

Unilever Chairman Michael R. Angus says his company can adjust. He notes its success with Elizabeth Taylor's Passion perfume and Erno Laszlo skin products. "We have a deep understanding of consumer institutions and needs," he says. "I've no doubt about our marketing skills in this area." To minimize culture shock, Calvin Klein and Arden will function for now as separate divisions.

The new owner, with \$28 billion in revenues and \$2.36 billion in pretax profits in 1988, will also put more marketing muscle behind Fabergé and Arden than Riklis, who was more interested in squeezing costs. And Angus even thinks that Unilever scientists studying the likes of Wisk detergent can teach a thing or two to Arden's skin care experts. Using research into the effects of soap on skin, Angus says, his labs have developed proprietary skin care technology. Those skills could eventually give Arden's skin creams a competitive edge. That could boost Unilever's hopes for some sweet-smelling profits.

By Mark Marcumont in London, with Stewart Toy in Paris and Andrea Rothman in New York

SPORTS BUSINESS

CAN TEX SCHRAMM MAKE PIGSKIN FASHIONABLE IN PARIS?

The commissioner of the NFL's new World League has his work cut out

Former Dallas Cowboys General Manager Texas E. Schramm fashioned one of the most successful franchises in National Football League history. Schramm's Cowboys won two Super Bowls and put together an unprecedented string of 20 winning seasons during his 29-year reign. Long before other teams, Schramm packaged the Cowboys, using flashy blue uniforms, scantily clad cheerleaders, and a weekly newspaper. By the late 1970s, "America's Team" was drawing top TV ratings and accounting for 25% of NFL merchandise sales.

Schramm left the Cowboys in April, after new owner Jerry Jones arrived and set about remaking the club. But he didn't leave football. On July 19, NFL owners voted to create a 12-team international

sales in Europe totaled \$50 million, compared with none five years ago. And football leagues have sprung up throughout the continent. Some 200 amateur teams square off in Britain. The French field 48 squads. The fans, though, want the real thing: the NFL. When the Cleveland Browns play the Philadelphia Eagles in London on Aug. 6, the NFL expects to sell out 78,000-seat Wembley Stadium. By contrast, only 20,000 fans are expected to watch the Euro Bowl, the European amateur championship, in Milan on July 23.

So the NFL's owners plan to give Europeans a steady diet of American football—or at least a reasonable facsimile. The owners hope



all league and named Schramm the commissioner. The World League of American Football could kick off next March, fielding teams in Europe and North America—if threatened legal action by developer Donald J. Trump doesn't get in the way. Says the man who made the Cowboys a surefire brand name: "I look forward to the challenge."

Schramm isn't creating a market out of thin air. U.S. football has made inroads in Europe since the NFL began showing weekly highlight films in Britain in 1983. Last year, NFL merchandise

that European growth will offset disappointing U.S. returns. Domestic TV revenues peaked in 1986 at \$493 million, dipping last year to \$478 million. But the average player contract has doubled to more than \$200,000 since 1982.

SPRING FLING. The WLA's structure is still evolving. Schramm expects to field four teams in Europe, six in the U.S., and one each in Mexico and Canada. Plans include a spring league with teams shuttling across the Atlantic to play. Schramm says the NFL will be the sole stockholder of the WLA teams. The

ague will sell operating licenses and, like the Arena Football League, the AFL will sign a pool of players, then allow teams to draft from that pool. The theme is designed primarily to keep costs down. Says Schramm: "This league will only work if average contracts are held at \$40,000."

Even if he meets that goal, Schramm figures a WLAF team will still cost at least \$4 million a year. He's looking to incorporate sponsors for help. He doesn't rule out naming teams after their business backers, a practice common among European basketball franchises. He also plans to generate cash through TV contracts in Europe and the U.S. He's already holding talks with ESPN, among others. Says ESPN Inc. President Roger Werner Jr.: "We're intrigued."

Will fans really turn out? After all, it's not the kind of bucks Schramm is talking, he won't be fielding superstars. He expects to stock teams with a few talented Europeans and a lot of second-rate Americans. Asks Robert Payton, an American expatriate who once narrated NFL highlight films in Britain: "If you could watch NFL football on TV, could you watch the London Beefeaters or the German Commandos?"

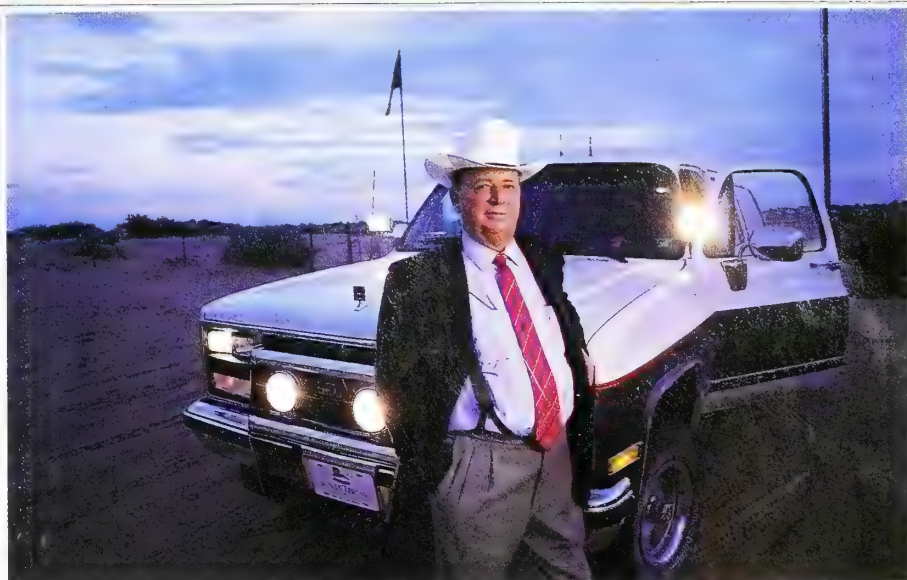
You would, thinks Schramm, if the game offered a bit of spectacle. He plans to export cheerleaders to Mexico and Europe, along with marching bands, pit dogs, and U.S.-style scoreboards. That show-biz style paid off last year in Dublin. Before a college game there, organizers staged a parade, launched 10,000 balloons, and arranged for a squad of parachutists to swoop down on the field and deliver the game ball. The event drew 40,000 fans. Says Schramm: "They'll come for the experience, and they'll learn to love the game."

FRENCH LESSONS. If they ever get the chance, that is. Trump, who says he wants to form his own international league, plans to sue the NFL for anti-trust violations "for hundreds of millions." And the NFL Players Assn., worried that WLAF players could cross over to the NFL and drag down salaries, may wreck Schramm's cost structure by organizing WLAF players. Says NFLPA president Gene Upshaw: "We have to protect our members."

The 69-year-old Schramm doesn't seem worried. He plans to jet over for the Super Bowl, then come back and start finding sponsors. Schramm says his biggest headache is not knowing any foreign languages. "You know those Parisians," he grumbles. "They probably don't know English but won't speak it anyway." That's why this old dog is learning a new trick: Tex Schramm, the pride of Dallas, is studying French.

By Kevin Kelly in Dallas, with Thomas Harnke in London and bureau reports

REAL ESTATE



CROWDER: "HOW CAN YOU BE EFFICIENT IF YOU WAKE UP WITH NO PLUMBING?"

CHARLIE CROWDER SEES UTOPIA, AND IT'S A BORDER TOWN

The New Mexico land trader wants to build a *maquiladora* metropolis

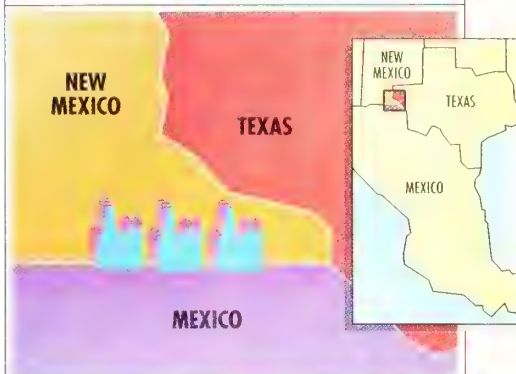
Charlie Crowder points to a path stretching behind a lone bulldozer in the desert. "That," he says, "is the Santa Teresa International Beltway." A fast-talking, chain-smoking land trader, Charles L. Crowder has big plans for his chunk of desert about 10 miles west of El Paso along the U.S.-Mexico border. He envisions a brand-new city, half in Mexico, half in the U.S., built around a group of border-zone assembly plants, the *maquiladoras*.

The *maquiladora* industry, based on \$4-a-day Mexican labor, has tripled in this decade, with U.S. and Japanese companies employing some 400,000. And that has stretched Mexico's border cities thin. They're grievously short of water, roads, bridges, and housing. South of El Paso, Ciudad Juárez, the *maquiladora* capital of North America, alone is short some 40,000 housing units.

The lack of services makes it hard on workers, one reason why annual labor turnover at many plants tops 100%. But it's frustrating for suppliers and shippers, too, with trucks often waiting a full day to cross the border. Crowder is betting that businesses are so anxious for efficiency that they will bankroll an entire industrial city—his, Santa Teresa.

Crowder's Utopia is an orderly town straddling the border, where workers and managers live within walking distance of factories and customs inspectors tour the premises, as he says, "like security guards at a shopping mall."

That's not an image that Judy Turner, a spokeswoman at the U.S. Customs Service in Houston, likes much. But she allows it's "not totally outside the realm of possibility." More to the point, Crowder has some rock-hard assets: He controls 25,000 acres on the U.S. side of the border and even more on the Mexi-



can side—"all the way to those mountains," he says, pointing to distant peaks. Santa Teresa even has an airport.

It also lies atop large groundwater supplies. "Charlie's sitting on enough water to take him well into the 21st, if not the 22nd, century," says Jeffrey B. Peters, president of the U.S.-Mexican Development Corp. and an adviser to Crowder. Hype? Yes, but the fact is, there's so much water on Crowder's parcel that El Paso has spent 12 years and \$8 million in legal fees trying to tap it.

Grubb & Ellis Co., a big San Francis-

co-based real estate developer, recently agreed to promote Santa Teresa. Grubb formed a 50-member team that will tour Northeastern and Midwestern cities, trying to lure companies south. "The Pittsburghs, Philadelphias, Detroit, and Boston of this world have many companies that will come down here," says Franklin K. Skinner, the team's director. None has yet signed up, however.

'ALWAYS A CONCERN.' The hitch is financing. Crowder needs to build housing first. For that, he needs up-front money, and efforts since 1987 to raise it have failed. The developer dismisses questions about financing with one-liners: "I have people all over the world making installments on my MasterCard," he says, referring to those trying to drum up funds. But Grubb's chief executive, Harold A. Ellis Jr., admits that financing is "always a concern." Crowder's partner and financial adviser, Christopher O. Lyons, says that the project needs \$30 million to get started.

The other potential worry is Mexico. Although Crowder has an authorized border crossing for cattle on his land, he hasn't yet received permission from Mexico for an industrial crossing. Such paperwork can paralyze projects. But here, Crowder can count on a powerful friend, outgoing Juárez Mayor Jaime Bermúdez, the biggest *maquiladora* developer in Mexico, who's helping to develop Santa Teresa. Says Crowder: "Jaime wrote the book."

Crowder has scrawled a few pages himself. The 57-year-old made himself a legend in the Southwest as a politically connected land trader. He built his fortune by purchasing plots of land—such as a chunk of Arizona that in 1987 was annexed to the Navajo reservation—and then trading them for better lots elsewhere. But to date, his development efforts have been one-man shows, rarely exceeding the scope of his checkbook.

Driving the sandy red roads of his border domain, Crowder sounds more like Mother Teresa than a developer. The key to success, he says, is meeting the workers' needs. "How can you be efficient," he asks, "if you wake up with no plumbing, walk through a slum to work, and worry about your grandmother's safety?"

That sentiment inspired Harvard University design classes to draw up blueprints for the new town. But, as Don C. Shuffstall, international marketing director at El Paso *maquiladora* contractor Elamex, notes, "it's going to be a mammoth task." And until Crowder persuades someone to finance him, no road in North America will be dustier than the Santa Teresa International Beltway.

By Stephen Baker in Santa Teresa

AIRLINES

COFFEE, TEA, AND THE POWER OF POSITIVE THINKING

Seminars teach Continental's workers that good service 'feels' better

'C'ould I see a little more enthusiasm, please?"

It's nine o'clock on a recent Monday morning at the Holiday Inn Jetport in Elizabeth, N. J. Among the Continental Airlines Inc. employees here for a two-day seminar on service, enthusiasm seems in short supply. One young woman is trying hard not to nod off, while a man across the aisle sits stolidly, without a flicker of emotion on his face.

But Theodora M. Pierakos, the "facilitator" from the Quality Service Insti-

they will provide better service.

As the day wears on, the invincibly cheerful Pierakos teaches the class of flight attendants, ticket agents, pilots and cargo workers the creeds of the Swedes. If something goes wrong in your life or job, "own the problem" and fix it. When you reprimand somebody do it in private. List the skills you want to acquire—and cross off the list any thing you're not prepared to work for.

Pierakos also throws out tidbits about society and the psyche: We live in a ser-



'FACILITEACHER' PIERAKOS: POP PSYCHOLOGY, PEP TALKS, AND STROKE NOTES

tute, wants a fired-up audience. "Don't you feel better when you give good service?" she asks.

The Quality Service Institute is a joint effort of Frank Lorenzo's Texas Air Corp. and Scandinavian Airlines Systems, the Swedish carrier that is now a marketing ally of Continental, Texas Air's main carrier. SAS is renowned for its service, while Continental has yet to shake its reputation as an airline where the seats are as frayed as the staff's tempers. The goal of the institute is to teach all Continental employees the secret of the SAS approach.

CREEDS OF THE SWEDES. The institute offers a smorgasbord of pop psychology, pep talks, and game-playing to put workers in touch with themselves. "We want people to attend not because it's good for Continental but because it's good for them," says Jan Lapidoth, the Swedish president of the institute. If people feel good about themselves, the theory goes,

vice economy. Most people use a fraction of their brain's potential. Baby monkeys deprived of physical contact die. (The point of that insight is that humans also suffer when neglected by others, such as bosses.) Pierakos hands out "stroke notes," for dashing off compliments or corrections to fellow workers.

The employees gradually warm up to the seminar. They seem gratified that Continental is paying enough attention to them to set up these courses, and they enjoy the psychology lessons and self-help tips.

But as its employees try to feel good, Continental must watch out for American Airlines Inc. and Delta Air Lines Inc.—no slouches when it comes to service. Continental seems to be turning around, and it's ordering new planes. But to compete long-term with its rich rivals, stroke notes won't be enough.

By Christopher Power in Elizabeth, N. J., with Mark Ivey in Houston



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EDITED BY HARRIS COLLINGWOOD

REFIGURING THE COST OF OIL SPILLS

► The Interior Dept. may have to go back to the drawing board with its plan for getting compensation from companies that foul public waters and lands. In a decision that may affect Exxon and other companies involved in accidents that unleash hazardous substances, the federal appeals court in Washington on July 14 struck down agency rules for "natural resource damage assessments."

The judges said Interior's approach could result in far smaller payments than Congress had intended when it ordered up a plan a decade ago. Interior's computer model, which puts price tags on the values of particular animals, was thrown out, too. Any overhaul of the rules could change how Interior handles Exxon's liability for last March's massive Alaskan oil spill.

THE ARBS GET BURNED ON CUMMINS ENGINE

► Heirs of Cummins Engine's founding family have spoiled the fun for takeover speculators by buying out a potential raider. On July 17, the family shelled out \$72 million for the 8.8% stake of a unit of Britain's Hanson that some thought was readying a run at the diesel-engine maker.

Irwin Miller and his sister, Clementine Tangeman, acquired the shares, raising their investment in the company to 15%. Disappointed arbitrageurs drove the stock down 4%, to 59%, following news of the transaction.

IS LOCKHEED STOCK SET FOR TAKEOFF?

► What's Harold Simmons up to? On July 18, the Dallas investor said he had raised his stake in Lockheed to more than 8%. But last April, one

day after Lockheed Chairman Daniel Tellep announced a defensive restructuring, Simmons slashed his holdings from 5.3% to 4.2%. Since then, Simmons has increased his stake after meeting at least once with Tellep to discuss his intentions.

Simmons insists that Lockheed is a long-term investment—even though he's paying for roughly 40% of his stake with borrowed cash. "I don't need to take over a company to get a payoff," says Simmons. But he may be trying to put Lockheed in play. Says Howard Rubel, an analyst at C.J. Lawrence: "I find it hard to believe that any long-term investor can have such a large position with so much of it on margin."

DOW PAYS A STIFF PRICE FOR NEW DRUGS

► Dow Chemical has taken some strong medicine to boost its drug business. On July 17, it agreed to pay \$4 billion to \$5.5 billion in cash and stock for two-thirds of Kansas City-based Marion Laboratories. The final tab, determined by Marion's future stock price, will equal 28 to 39 times Marion's projected 1989 earnings of \$210 million.

That "huge premium," says Salomon Brothers analyst Leslie Ravitz, reflects the wave of consolidation sweeping through the pharmaceuti-

WHAT DO THEY BRING IN FOR SHOW-AND-TELL?

At most schools, a fund-raiser means a car wash or bake sale. That's normally good for a couple of thousand dollars. Well, the Wildwood School in Santa Monica, Calif., is different. Its 195 elementary school kids include the children of actors such as *Cheers*' Ted Danson and *L.A. Law*'s Jill Eikenberry and Michael Tucker. So it's a special occasion when Wildwood holds a fund-raiser to supplement its \$6,000-a-year tuition.

The school's recent shindig featured a Ferris wheel and real elephants. But the action was at the auction. No stale cookies and lopsided cakes here. Lucky bidders took home a *Cheers* walk-on role, a glove worn by Jack Nicholson in *Batman*, and the right to name a new character on the TV show *thirty something*. The most sought-after item? An L.A. Lakers' basketball, signed by the whole team. It fetched a cool \$2,300. As for the school, it pulled in well over \$100,000, netting \$70,000.



cals industry. Last year, Kodak paid 26 times earnings for Sterling Drug. Marion will merge with Merrill Dow to form a \$2.3 billion drug company.

CONTROL DATA IN A PLATO RETREAT

► Control Data got rid of 80% of its Plato computerized-education business, a darling of retired founder William Norris. In the 1960s, Norris began putting computers in the classroom as a way to combine the pursuit of profit with social responsibility. The problem with Norris' scheme was

that it required big mainframes, making Plato an expensive proposition. And the company never successfully managed the transition to personal computers. Plato will go for an undisclosed sum to a buyer group headed by William Roach, a veteran of the job-training business.

EASTERN'S DEBT PLAN WINS KEY BACKING

► Eastern Air Lines' unsecured creditors have approved the company's bankruptcy reorganization plan, due to be filed in court on July 21. Under the plan, some unsecured creditors would have two options for being repaid. One calls for interest-rate reductions of one percentage point or so in return for repayment of principal in accordance with a fixed schedule by 1994. The other option would allow creditors to maintain their current interest rates, but does not reschedule retirement of the debt.

Sources close to the situation say most of the unsecured creditors, who are owed about \$700 million, will opt for the fixed-repayment plan, which calls for a total of some \$75 million in principal payments at yearend.





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WHAT JACK KEMP LOVES ABOUT THE HUD SCANDAL

Democrats began this year thinking their strength in Congress and the more moderate policies of the Bush Administration would allow them to reverse some of the social spending cuts of the Reagan years. But the hard realities of the budget deficit frustrated most of their plans. The one exception seemed to be housing policy, where the lobbying of the real estate industry gave the National Affordable Housing Act the sort of potent backing that programs for poor and moderate-income Americans usually lack.

But continuing revelations of fraud and influence-peddling at HUD during the Reagan era have stopped the legislation—co-sponsored by Senators Alan Cranston (D-Calif.) and Alfonse M. D'Amato (R-N. Y.)—in its tracks. And HUD Secretary Jack F. Kemp is preparing an assault on the measure. "Kemp once viewed the bill as something he couldn't stop," admits a Kemp adviser. "Now he has good reason to shift away from it."

The danger of the legislation is that it would throw good money after bad. For example, the Federal Housing Administration's mortgage-insurance program, already hit by massive defaults, would get a big boost in underwriting authority. The bill would raise the ceiling on federally insured mortgages from a flat \$101,500 to 95% of the median home price in each market and would lower downpayments.

The measure also would create the Home Corp., an agency that would provide \$3 billion a year to finance housing construction. Critics charge that the scheme is disturbingly susceptible to the sort of waste and fraud that riddled HUD's construction programs. "The bill is socially unacceptable and fiscally irresponsible," says William H. Lacy, president of Mortgage Insurance Cos. of America. Private mortgage insurers fear that any expansion of FHA authority will cut into their business.

Cranston, chairman of the Senate housing subcommittee, knows that his bill is in trouble. He has postponed indefinitely

a planned July 18 session at which Kemp was to testify on the measure. He has also shelved a plan to begin committee action on the bill on Aug. 1.

Kemp has made no secret of his distaste for traditional housing programs and has used the scandal as an opportunity to promote his free-market alternatives. He has suspended three corrupt housing programs and is reviewing at least 50 others. Aware of charges that he is using the scandal as an excuse to cut HUD's subsidy programs, Kemp told a House subcommittee: "I am not out to wage a war on programs."

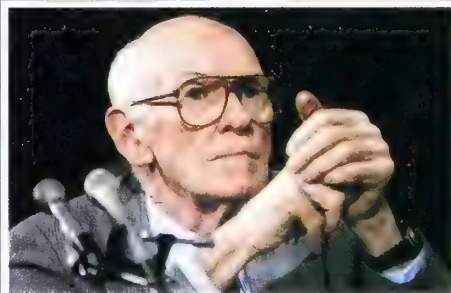
'MR. HOUSING.' In fact, scandal or not, Kemp knows he must tread lightly. The homebuilding, real estate, and mortgage-finance industries pack an enormous punch on Capitol Hill. Cranston is widely known as "Mr. Housing" in the Senate and traditionally has been the biggest recipient of campaign contributions from real estate interests. D'Amato, a master of pork

barrel politics, used his influence to win HUD funding of a swimming pool in his hometown of Island Park, N. Y.

Developers are the major constituency for Cranston-D'Amato. The legislation is based largely on proposals from a task force, most of whose 26 members have close ties to the development industry. Says Ira Gribin, president of the National Association of Realtors: "We hope the scandal doesn't put so much heat on Kemp that the White House can't support" the bill.

Backers of the legislation argue that, under new leadership, both HUD's existing programs and the new ones included in the bill can avoid abuse. Says Representative Barney Frank (D-Mass.): "Nothing would have protected the programs against [former HUD Secretary] Samuel Pierce and [Assistant Secretary] Deborah Dean." But the Hill is likely to think twice before rushing to pass a bill that promises more of the same and then some.

By Ron Stodghill II and Douglas A. Harbrecht



CRANSTON: A DEVELOPER'S BEST FRIEND?

CAPITAL WRAPUP

TRADE

Abureaucratic squabble in Washington may undermine a diplomatic victory in Paris. At the recent economic summit, Japanese Prime Minister Sosuke Uno agreed to a U. S. call for high-level talks aimed at reducing Japan's structural barriers to American goods. The announcement came as a bit of a surprise because Japan had sworn it would never negotiate under the threat of America's "Super 301" trade sanctions. But after the Japanese got an eyeful of U. S. plans for organizing a "Structural Impediments Initiative," they may have decided they have nothing to fear. The initiative

called for negotiations with the Japanese to reduce the barriers to U. S. imports posed by such things as the complex Japanese distribution system and the country's tax code.

Treasury Secretary Nicholas F. Brady has been the strongest backer of the SII. But Secretary of State James A. Baker III and U. S. Trade Representative Carla A. Hills insisted on a piece of the action, so President Bush has appointed "tri-chairmen," representing all three agencies. Now, the Commerce Dept. is miffed at being left out. Treasury officials predict that if the free-trade State Dept. emerges at the top of the interagency heap, chances for progress will be even smaller.

CLEAN AIR

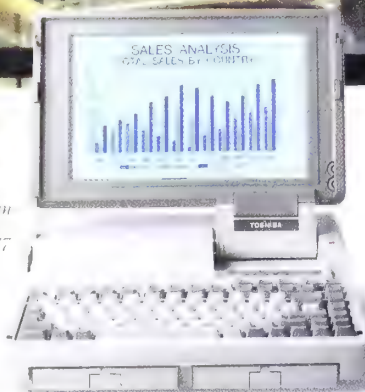
Both industry and environmentalists are upset as the Bush Administration puts finishing touches on clean-air legislation. Environmental groups claim the fine print on auto emissions might allow an increase in pollution. Industry lobbyists are unhappy that most manufacturers may have less flexibility than the carmakers. They complain the legislation could double the current \$35 billion-a-year cost of pollution control. It's unlikely a bill will pass this year, but the White House's willingness to compromise—and seize the middle ground—could greatly improve the chances of passage in 1990.

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EUROPE

'NOTHING IS SACRED, AND NO ONE IS TOO BIG'

Goldsmith's bid for BAT is forcing European companies to rethink their survival strategies

Back in March, Britain's industrial power elite gathered in the Bank of England's Oak Room for a panel discussion of the merits of contested takeovers. Among the speakers was Sir James Goldsmith, just back from nearly a decade of corporate raiding in the U.S. After 90 minutes of debate, the debonair Anglo-French financier got to his main point: "The very best takeovers," he thundered, "are hostile."

Goldsmith wasn't kidding. Four months later, Europe's biggest raider would unveil his biggest and most audacious bid ever: a \$21 billion junk-bond-financed bid to take over and break up British conglomerate BAT Industries PLC. In so doing, Goldsmith sharply accelerated the pace of and narrowed the differences between two powerful trends in European business. One is the emergence of the large-scale corporate breakup, of which Goldsmith is a master. He has raised the stakes to an unheard-of

scale for all of the Continent's corporations. The other is the trend by many traditional European managements to plunge ahead with their own restructuring plans in anticipation of a much freer market in 1992. Now, as a result of the BAT deal, European industrialists are coming to realize that simply accumulating corporate bulk—the trend of the 1970s—is no longer a guarantee of independence. The BAT bid, says Italian industrialist Raul Gardini, "is going to unleash some big, big deals."

CHIPPING AWAY. Talk of hostile takeovers is gripping Britain, France, Italy, Spain, and even West Germany, where until recently an unfriendly bid was unthinkable. As raiders such as Goldsmith hammer away at breakup deals, others are putting together mergers designed to strengthen their companies against tougher competition from Japan and America.

In food processing, insurance, banking, supermarkets, trucking, and high tech the

dealmaking race is on. American Telephone & Telegraph Co.'s sale of its 22% stake in Italian office-equipment maker Olivetti, for example, will spark a feverish consolidation among European computer makers. Says Chief Executive Francis Lorentz of France's Groupe Bull: "Everyone's talking with everyone else." The prospect of heated foreign competition may force Europe's big three semiconductor manufacturers—Philips, SGS-Thomson, and Siemens—to merge their chipmaking operations into one. Even in countries such as Italy, where a handful of industrial groups controls the bulk of big business through interlocking shareholdings, alliances are booming through joint ventures and other strategic tie-ups.

But nowhere is takeover fever hotter than in Britain, home of Europe's biggest stock market and half of the region's publicly traded companies. Many well-known British companies trade for a small frac-

tion of their book value (table). Although hostile takeovers long have been a standard practice in the City, it wasn't until recently that American-style, highly leveraged raiding techniques made their British debut. Indeed, only days after the Goldsmith bid was announced, another group led by S. G. Warburg & Co. clinched the City's first major unfriendly leveraged buyout of a public company: a \$3.4 billion takeover of supermarket and sporting goods retailer Gateway Corp.

But Goldsmith's BAT offer dwarfs all of the others both in size and in its financing. Backed by a who's who of money, Goldsmith expects to raise \$17 billion in debt through Bankers Trust Co. and Drexel Burnham Lambert Inc. Another \$1.4 billion in equity is to come from Jacob Rothschild, a British financier, and Australian billionaire Kerry Packer. Also joining in are Britain's General Electric Co. PLC; France's Banque Paribas and Rothschild & Cie. Banque; Switzerland's Pargesa; and Italy's Agnelli family.

VULNERABLE. Goldsmith's junk-bond financing may in the end fail to attract sufficient interest from conservative European investors. But even if the bid fails, it will have demonstrated that many undervalued European companies, whether in real estate, food, finance, or manufacturing, is now fair game. With many international investors looking for juicy Eurodeals, even companies that have tried restructuring on their own may now be vulnerable. Observes John Cahill, managing director of British conglomerate BTR PLC: "Nothing is sacred, and no one is too big."

Take insurer Assicurazioni Generali, Italy's most valuable public company and its No. 1 owner of real estate. Generali's properties are worth \$1.2 billion on its books, but they are widely regarded as drastically undervalued. "Looking at what has happened elsewhere," concedes Chairman Enrico Randone, "a takeover is theoretically possible." Or maybe not just theoretically. Industrialist Carlo De Benedetti, who tried unsuccessfully 18 months ago to break up the 1,200-company Société Générale de Belgique, now is said to be sniffing around Generali. In fact, many believe that De Benedetti's Belgian foray helped pave the way for Goldsmith to attack BAT.

Germans, too, see the merger climate heating up, with a flurry of possible deals in the range of \$1 billion to \$2 billion over the next year. Germany's big banks hold large stakes in many companies and stand ready to defend them. But even the prospect of bankers protecting affiliates doesn't scare some investors anymore. "Hostile takeovers will take place," pre-

dicts Günther Moeser, mergers chief at Siemens. "There are many shareholders who would welcome the chance to make big money." Some even say that the German electronics giant, with a \$13 billion cash hoard, may have even felt vulnerable. In what some now regard as a protective move, Siemens made a \$3 billion bid last fall with Britain's GEC—itsself seen as a takeover target, too—for Plessey PLC, the defense and telecommunications maker. That deal is still pending.

The prospect of big, hostile deals is a new headache for politicians and financial regulators, who are used to protecting

European companies have been shuffling assets madly, dumping peripheral operations to focus on core activities.

In Britain, many industrial conglomerates have been unwound, stripped of assets, or are, like BAT, under attack. Few old-fashioned industrial conglomerates remain, and those left, principally Hanson PLC and BTR, seem relatively safe from takeover because of their strong profitability. In fact, Hanson's 1986 acquisition of Imperial Group PLC seems to have been the prototype for Goldsmith's plan for BAT. Hanson sold nearly all of Imperial's operations, keeping its tobacco unit for its lush cash flow. Now, Hanson is about to dismember another conglomerate: mining giant Consolidated Gold Fields PLC, which accepted a \$5.6 billion Hanson bid in early July after fending off a hostile offer by Minorco.

CRASH DIET. Others may be in for ConsGold's fate. In May, Goldsmith, Packer, and Rothschild bought a 29.9% stake in food giant Ranks Hovis McDougall PLC. And brand-rich food companies, such as Cadbury Schweppes and United Biscuits, and a conglomerate or two, including *Financial Times* publisher Pearson, also remain vulnerable.

Most are running hard to slim down: United Biscuits is trying to unload its hamburger and pizza chains to

focus on packaged foods. For other companies, dealmaking seems the fastest way to prepare for an era with no trade barriers within Europe. French food giant BSN, for example, spent \$2.5 billion for the European cookie and potato chip units of RJR Nabisco, when they came on the market as part of the breakup of RJR. BSN then recouped \$1.3 billion by selling the chips unit to PepsiCo Inc.

At the same time, BSN is also edging its way into the Italian food industry through IFIL, an investment group controlled by the Agnelli. The foray will help cement BSN's new European role—and many similar ventures are in the works. But other companies may not be as fortunate.

Few believe that raiders such as Goldsmith will stay with a company long enough to help it compete in the new Europe. And even today's strategic mergers may become tomorrow's breakup candidates if managers aren't careful. Hostile or not, Europe's dealmania has a long way to run.

By Richard A. Melcher in London, with Gail Schares in Bonn, John Rossant in Rome, and Blanca Riemer in Paris

BRITAIN'S CORPORATE BARGAINS

Company	Price per share *	Book value per share *	Discount from book value Percent
SUN ALLIANCE Insurance	\$4.86	\$17.37	72%
MT. CHARLOTTE Real estate	1.48	4.40	66
VAUX GROUP Beer	4.87	13.84	65
NATIONAL WESTMINSTER BANK Banking	5.09	12.44	59
BRITISH & COMMONWEALTH Real estate	2.75	5.25	48
LAND SECURITIES Real estate	9.85	13.94	29
BRITISH LAND Real estate	6.34	8.66	27
BRITISH STEEL Steel	2.23	2.80	20
MEPC Real estate	9.75	11.85	18
TSB GROUP Banking	1.71	2.09	18
QUEENS MOAT Real estate	1.83	2.20	17
TAYLOR WOODROW Contracting	5.35	6.26	15
MIDLAND BANK Banking	5.57	6.44	13
GREAT PORTLAND ESTATES Real estate	6.73	7.76	13
ROYAL BANK OF SCOTLAND GROUP Banking	6.35	7.18	12

* July 14, converted at rate of \$1.63 per British pound

DATA: JAMES CAPEL & CO.

their national companies. Now some suggest companies are taking on too much debt and leveraged takeovers should be curbed. They are also concerned that corporate raiders may squeeze companies for short-term profits at a time when the companies need to invest for the more competitive Europe expected in the early 1990s. And like many of their counterparts in the U.S., they fret about too many foreign raiders dominating their economies.

But the heated pace of restructuring isn't just raider-driven. Europe has been building up to a BAT-style restructuring. Inspired first by the economic ravages of the early 1980s, then by foreign competition and government deregulation, and more recently by 1992, a wide array of Eu-

Regulators worry that companies will be too debt-laden to compete in the post-1992 market

VENEZUELA

A CRACKDOWN IN CARACAS SENDS FOREIGN EXECUTIVES FLEEING

The probe into a currency scheme could touch dozens of companies

Few took it seriously until June when heads of some of Venezuela's largest foreign companies, including Ford, Pillsbury, and others, learned that the government in Caracas had issued warrants for their arrest. Now, the affair has mushroomed into a bizarre, billion-dollar financial scandal that observers say has caused dozens of top executives to flee the country out of fear of being jailed. "It's the first time in my career I've had anyone try to arrest me for doing nothing," says Cornelius Koreman, the president of Ford Motor Co.'s Venezuelan operations, who is now working out of the company's headquarters in Dearborn, Mich.

The scandal is rocking the highest echelons of Venezuelan government and industry. It centers on schemes in which foreign and Venezuelan companies are alleged to have illegally funneled up to \$8 billion out of the country by exchanging local currency for dollars at favorable exchange rates through a now-defunct government agency called Recadi. The agency was most active from 1984 through 1988, during the reign of ex-President Jaime Lusinchi, who wanted to give preferential rates to companies that used funds to import raw materials or remit dividends home. Multinationals were able to buy dollars at half the market exchange rate for Venezuelan bolivars through Recadi.

HUGE SUMS. A Venezuelan congressional committee, a judge, and a judicial panel are studying allegations that Recadi tolerated massive corruption by cashing in bolivars for dollars for many uses. In return, companies may have given government officials unspecified favors. The investigators are also looking into charges that companies falsified records to cover up the practice of importing inferior raw materials or fewer materials than documented. Since Recadi handled some \$40 billion worth of foreign exchange transactions over six years, the sums involved are huge. The judge says the amount of possibly illegal transactions was as much as \$8 billion since Recadi's inception. Recadi "became the major source of corruption this country has ever known," says Farid Antakly, president of the Venezuelan-American Chamber of Commerce.

The investigation began early this

year after newly elected President Carlos Andres Perez abolished the agency and unified exchange rates. That move and other reforms sent consumer prices soaring and prompted riots in February. In April, a former Minister of Development, Hector Meneses, attempted suicide and left a note, reprinted by newspapers, that implicated two former officials in the Finance Ministry.

Now, local papers say four of the five former directors of Recadi are under investigation, as are 27 former members of Lusinchi's government, including Blanca Ibanez, his private secretary. The

the inquiry. But observers say that others left specifically to escape the crack down. So far, the judge has issued warrants for 47 foreign executives and has ordered dozens of others not to leave the country. Among U. S. companies, arrest warrants were issued for the heads of Pillsbury and Ford. Executives reached at those two companies and elsewhere say they did nothing illegal, but others say abuses were widespread at other companies.

SCAPEGOATS? Observers say that what caused many corporate heads to flee—or to decide not to return to Venezuela—was the possibility of getting thrown in jail without bail before charges are brought. That's allowed under a unique local anticorruption law. Although many corporate officials think they are being set up as scapegoats for the country's deepening social and economic problems, few are ready to return to defend themselves. Already, political pressures have led courts to find other examples of al-



ON GUARD: RIOTS BROKE OUT AFTER ECONOMIC REFORMS FUELED RUNAWAY INFLATION

Venezuelans have also issued a warrant for the arrest of Argentina's newly appointed Economics Minister, Nestor Ranelli, who once dealt with Recadi.

Executives contacted at many multinationals with Venezuelan operations say they are not a target of the probe. The judge heading the investigation says that the companies under scrutiny include General Motors, Toyota, Johnson & Johnson, Bristol-Myers, Firestone, and Goodyear. Anyone who had to get dollars through Recadi, which means just about everyone, is suspect. Many executives at these companies, including Ford, say they left the country for business or vacation, not for the sake of avoiding

leged wrongdoing. On July 12, a Caracas judge ordered the arrest of the Venezuelan presidents of Procter & Gamble and Colgate-Palmolive for supposedly misleading advertising of their products, a case entirely separate from the foreign-exchange scandal.

How much further the investigations will go is unclear. But multinational executives are clear on several things. They won't be returning anytime soon, and they won't be ordering new investment for their Venezuelan operations. Meanwhile, Korman of Ford and others are running their companies with faxed messages and phone calls.

By Gail DeGeorge in Caracas

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ALGERIA TRIES UNTYING THE KNOTS OF SOCIALISM

Few nations have attempted the vast transformation now shaking Algeria, once one of the Third World's most committed socialist states. President Chadli Benjedid is leading a top-to-bottom overhaul of the economy and political system in hopes of bringing in foreign investment and reducing his country's growing reliance on imports.

A cautious consensus builder, Benjedid has been pushing for a freer economy since he gained power in 1979. But die-hard revolutionaries in his own National Liberation Front (FLN) would not admit to the need for change until rioting over food shortages, high unemployment, and price increases left hundreds dead last October. After those disturbances, Benjedid obtained a new constitution that drops socialism as the required economic system.

Foreign companies will soon be invited to take a majority position in joint ventures, although perhaps only with state-owned partners at first. Finance Minister Ahmed Ghozali says state enterprises should either make a profit or be shut down. "I hope two or three state-owned companies will go broke," says Ghozali, who took up his post after the October riots. Algeria needs strong economic medicine. With oil and gas producing 97% of its exports, the country's foreign earnings have plunged 40% since prices fell in 1986. The resulting lack of funds for investment in industry has helped send unemployment over 20%. Last June, Benjedid obtained a \$600 million loan from the International Monetary Fund to finance imports as well as payments on Algeria's \$22 billion in foreign debt.

LOOKING ABROAD. Like many other leaders now trying to revive their economies, Benjedid is counting on foreign partners to bring in jobs and stimulate exports by using Algerian energy resources. One U.S. company is now discussing a helium plant, and another a gasoline additive factory. A gas pipeline to Spain is on the drawing boards. Benjedid already has a few wins: Sweden's L. M. Ericsson has set up a small telephone switch plant, and Italy's Fiat will build Algeria's



PRESIDENT BENJEDID

first auto factory to produce 40,000 cars per year for the local market. Peugeot is discussing setting up an Algerian plant.

In addition, foreign investors may be attracted by the fledgling common market that Algeria recently set up with Tunisia, Morocco, Mauritania, and Libya. These countries aspire to be hosts to a network of North African manufacturing operations that would supply the EC much as the system of plants in northern Mexico serves U.S. companies. The EC countries have an interest in encouraging healthy economies in these countries, if only to help slow the immigration of job-seeking North Africans. For Algeria to be a serious candidate for offshore production it will have to find a way to offset labor costs that are now four times that of Tunisia, which now looks more attractive for such projects.

Already, U.S. oil and gas companies, which have shunned Algeria since contract disputes in the early 1980s, are coming back. Anadarko Petroleum, a unit of Panhandle Eastern, is likely to sign an exploration agreement shortly, and Amoco and Conoco are talking to the government about similar deals. Benjedid is turning to foreign oil companies because Algeria hasn't discovered a new field since 1962. Poor production techniques mean Algeria can't even ship its OPEC quota of 730,000 barrels a day. Recently, Halliburton Co. signed a \$40 million deal to boost output through secondary recovery of oil.

Political renewal may be tougher. Benjedid's reforms face lingering opposition from FLN stalwarts, who may fight him at a crucial party congress in October. Hardliners could split into a new party. Moreover, although the new constitution permits multiple parties, it's not clear how committed the Benjedid camp is to real democracy. Party formation laws and proposed election rules seem designed to keep the FLN firmly in power. Still, most Algerians seem to feel their country is finally moving in the right direction. Benjedid's task is to produce results fast enough so that the mobs stay out of the streets.

By Stewart Toy in Algiers

GLOBAL WRAPUP

ARGENTINA

The sudden death of Economics Minister Miguel Roig during Bastille Day activities at the French embassy in Buenos Aires may set back President Carlos Menem's fiscal reforms. Many observers question whether Roig's successor, Nestor Rapanelli, also from the conglomerate Bunge y Born, supports the deep cuts in state enterprise budgets needed to curb inflation and has the political strength to enforce his program. July price increases are expected to hit 260%. While Menem has obtained a price-restraint agreement from business, the International Monetary Fund and other credi-

tors are holding up new loans until they see results.

ARMS CONTROL

Recent statements from Moscow may have brightened the prospects for a strategic arms agreement. Russian arms experts said they would consider banning multiple-warhead missiles carried on mobile launchers. This is an encouraging development from the U.S. point of view because only the Soviet Union has deployed such weapons. And the Soviets have agreed to consider a novel American approach to the thorniest arms control issue: verification. Under the American proposal, both sides would be permit-

ted to try out experimental measures before the treaty is signed.

SOUTH AFRICA

President P. W. Botha's recent meeting with jailed black leader Nelson Mandela is being taken by the black trade unions as a sign that pressure on the government gets results. COSATU, the federation of trade unions, plans to raise the stakes by calling a week of job actions before the Sept. 6 general election, when F. W. de Klerk is expected to take over as president. COSATU wants to challenge the government's efforts to improve its international image. But observers fear such tactics will lead to more repression.

NOW SALESPeOPLE REALLY MUST SELL FOR THEIR SUPPER

More department stores are changing to straight commission

John L. Palmerio, a 25-year veteran of the men's shoe salon at Bloomingdale's flagship store in Manhattan, thought working on commission would prove lucrative. He hasn't been disappointed. Since February, when his department switched from an hourly wage scale to a 10% commission on sales, Palmerio has been pulling in an extra \$175, or 25%, in his average weekly paycheck. And overall sales in the nine-person department have increased 22%. "So far, everybody has done much better than we anticipated," he says.

But upstairs in women's sleepwear and lingerie, sales associate Andrea Collier isn't wild about the prospect of giving up the security of a base salary. "It makes me nervous," admits Collier, whose department will be converting to straight commission within the next few months. "You have to work a lot harder to earn the same money."

APATHY CURE. Palmerio and Collier are part of a quiet revolution sweeping department-store retailing. To boost sales and upgrade service, major retail chains are converting thousands of hourly sales employees to commission pay. Department stores have always had salespeople on straight commission. But in recent decades, the practice has been limited to high-ticket areas such as furniture, electronics, and men's suits, where extra salesmanship really pays off. Now, they're applying the idea throughout the store, forcing clerks who sell anything from bed linen to pots and pans to earn their keep. Says James E. Gray,

president of the 30-store Burdines chain in Florida: "In the olden days, there was room for apathy. Now, you've got to sell to stay employed."

The retailers hope to use commissions, and their promise of higher pay, to motivate staff and attract better salespeople. Many have been inspired by Nordstrom Inc., a Seattle-based department store that has moved east and captivated shoppers with its service-oriented merchandising. A key ingredient of Nordstrom's success has been its reliance on skilled salespeople paid by commission.

But the Nordstrom formula can't be easily duplicated. Years of understaff-

ing, neglect, and poor merchandising have sliced department stores' market share for general merchandise, apparel, and furniture by three points since 1982, to 18% in 1988, according to trade journal *Chain Store Age Executive*. Simply switching to commissions won't solve such problems. "You do not create more customer-oriented salespeople by putting in an incentive," says Bernadette Duponchel, a consulting manager for the Management Horizons retail consulting unit of Price Waterhouse. "Customer service is part of a culture that has to be communicated throughout the organization."

HIGH TURNOVER. If handled poorly, commissions may even work against good service. "You are less harmed by someone who leaves you alone than someone who is attacking you," says Michael D. Sullivan, president of Merry-Go-Round Enterprises Inc., a chain of 610 apparel stores based in Joppa, Md. The company has used commissioned sales help since its founding in 1970.

Commissions haven't been a cure-all for Nordstrom's crosstown rival, Frederick & Nelson. The Seattle-based chain of

11 stores had about 90% of its departments on commission by 1987. "It's been slower than I had anticipated in terms of the benefits taking root," says Robert W. Presser, senior vice-president and director of stores. One problem: Sales staff turnover has increased from less than 5% a year to a disruptively high 18%. Part of that reflects the loss of longtime employees who could not meet more stringent performance standards. But even promising new hires have not made the grade. "It's not a question of age or tenure but whether people are really cut out to sell," Presser says.

While department stores see it as an investment that should boost sales, converting to commissions is expensive at first. The process costs \$700,000 to \$1 million per store, estimates James M. Zimmerman, president of Campeau's Federated and Allied chains. That includes training



MAKING COMMISSIONS PAY

Example covers earnings for a salesclerk in the women's ready-to-wear department of Bloomingdale's maintaining sales volume of \$500,000 a year. Clerk is guaranteed a minimum about equal to prior year's salary, to be paid as a draw against commissions. Pension benefits will increase as compensation rises.

OLD PLAN		NEW PLAN	
\$7 per hour for 1,950 hours	\$13,650	5% commission on \$500,000	\$25,000
0.5% commission on \$500,000	2,500		
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programs, computer changes, and pay, which often goes up immediately (table, page 50). Still, Campeau Corp. plans to have 90% of the sales associates in its nine department store chains on some form of commission by the end of 1990.

At Bloomingdale's, the crown jewel of Federated Department Stores Inc., 13 of the 17 stores now pay commissions across the board. In July, the company reached an agreement with Local 3 of the Retail, Wholesale & Department Store Union to put the 1,500 salespeople at its Manhattan store on commissions. Workers will earn 5% to 10% on sales, depending on the merchandise they sell. To prepare for the change, sales staffers will participate in a two-day symposium designed to explain the system and teach better sales techniques. "Intense training plays a critical role in the transition and relieves the apprehension employees may feel," says Margaret Hofbeck, senior vice-president for personnel and labor relations for Bloomingdale's.

EASING IN. At other retailers, the move to commissions has evolved more slowly. The Broadway, a department store chain owned by Los Angeles-based Carter Hawley Hale Stores Inc., began the changeover five years ago. "We started out with a group incentive first," says Cyndi J. Bohm, manager of the Montclair (Calif.) store. "If a department did better than the plan, everyone would share the extra pay. Then, beginning with apparel, The Broadway switched to individual commissions." All 113 department stores in Carter Hawley's five divisions are now fully on commission.

Is all this trouble and expense worthwhile for retailers? Store executives say that departments such as better apparel, handbags, and towels and linens often enjoy rapid improvements in sales after changing to commissions. But small-ticket areas such as food and stationery, where purchases often fall below \$25, don't do so well. Still, commissions may ultimately help reduce expenses. Frederick & Nelson's selling costs as a percentage of sales fell by nearly 1% last year, even though the chain increased the number of sales staff hours by 10%. "We can add more people because they pay for themselves," Presser says.

It's harder to judge the impact of commissions on service. Any incentive to improve selling skills has to be a step in the right direction, though, and commissions do seem to help. But if department stores still give customers a hard time on refunds or exchanges, or don't hire enough sales help, or don't offer exciting merchandise, then pay incentives won't necessarily make them better places to shop.

By Amy Dunkin in New York, with authors' access to the analysts and bureau reports

The Corporation

STRATEGIES

BLACK & DECKER CUTS A NEAT DOVETAIL JOINT

Its merger with Emhart brings a close fit of outlets and customers

Only days after wrapping up the \$2.8 billion purchase of Emhart Corp., Nolan D. Archibald set out on a victory tour. In five weeks during May and June, the chief executive of Black & Decker Corp. visited 40 plants in 11 countries. On one leg of the trip, he and a few colleagues flew 26 hours to Australia and were reviewing plant operations just 1½ hours after touching down—leaving barely time for a shower and shave. For a former Emhart executive who went along, the regimen brought back old memories: "It was like the Marines," he said.

Archibald needs to stay on the attack. His ambitious catch has saddled B&D with a combined debt of \$4 billion, pushing its ratio of debt to total capital above 82%. What's more, the deal will devastate earnings, with analysts predicting a slide from last year's \$97 million in net

income to as little as \$36 million this year. And next year? Profits should rebound to about \$100 million. Many investors have opted to sit out the digestion period, driving B&D's stock price from a pre-merger 25 to as low as 18¼ before settling at about 20.

Early critics felt the acquisition wasn't a particularly good fit. But the logic has become clearer: Many of the two companies' product lines (table) share similar channels of distribution. Emhart's Kwik-set door locks and decorative faucets, for instance, can be sold to do-it-yourselfers, who also buy B&D power tools. And Emhart's industrial adhesives, glue guns, and Molly bolts can be pitched to customers who use B&D's heavy-duty commercial tools. Already, retailers who carry only B&D lines are being pressed to look at Emhart's, too. With B&D's overseas clout, little-known Emhart products will find new markets. The merger, says Archibald, "will double the earnings capacity of our corporation."

HOUSEHOLD HITS. Once Archibald completes his handiwork, a \$5 billion powerhouse of home, garden, and industrial products should emerge. In the past three years, he has turned once-floundering B&D into a global overachiever—snatching back dominance of the world's power-tool market from Japanese and German rivals and making a name for B&D in the kitchen with stylish coffee makers and hot-air corn poppers. In the next three years, he'll turn B&D's marketing and design staffers loose on Emhart products. Jerry Peluso, a merchandising vice-president at retailer Best Products Co., marvels at B&D's ability to "create categories and reposition products in the consumer's mind."

The pressure is on. Archibald figures it will be a few years before B&D gets back on a 15%-a-year profit growth track. Already, he has trimmed 15% from the \$200 million combined capital budget. He figures initial consolidation savings of \$100 million a year and asset sell-offs of \$1 billion will help trim debt down to 50% of capital by 1992. But what if there's a recession in the meantime? Indeed, some competitors think

BLACK & DECKER PLUS EMHART: AFTER THE MERGER

INDUSTRIAL PRODUCTS \$1.4 billion in sales* A former Emhart unit that makes capacitors is on the block; also includes footwear materials, glass-making machinery, adhesives, and fasteners

POWER TOOLS AND SERVICE \$1.1 billion Products such as electric saws and portable drills sold under the Black & Decker label remain the company's most important franchise

HOUSEHOLD APPLIANCES \$749 million A lucrative line of space-saving coffee makers, Dustbusters, and irons

HARDWARE AND HOME IMPROVEMENT \$745 million Door locks and decorative faucets can be distributed through the same channels as B&D's bolts, drill bits, and saws

INFORMATION SYSTEMS \$654 million Computer software and services from Emhart will be sold

OUTDOOR PRODUCTS \$430 million B&D's lineup of hedge trimmers and leaf blowers fits with Emhart's outdoor lighting and rakes

*Based on 1988 results.

DATA COMPANY REPORTS, BW



B&D'S CEO ARCHIBALD: HIS DEAL MAY DEVASTATE EARNINGS IN THE SHORT RUN

the Emhart deal is great—for them. Says J. Kenneth Duncan, marketing vice-president for rival appliance maker Mr. Coffee Inc.: "It's a big acquisition, and it's going to take some attention."

If B&D hadn't gone after Emhart, though, Emhart might have come after B&D. "Surprising things happen in business. We were on each other's [acquisition] lists," notes Richard H. Campbell, now a B&D group vice-president. The companies also share fresh turnaround histories. When Chairman Peter L. Scott moved into Emhart's Farmington (Conn.) offices in 1985, he inherited an unfocused corporate laggard. After plunging it into the red with a costly restructuring in 1986, Scott led Emhart to a fivefold growth in operating income in 1987 and more gains last year, mainly through acquisitions. Among his savvy buys: Price Pfister Inc., a big splash in the faucet business, and GardenAmerica Corp., a landscape lighting company. While his work wasn't done, says Scott, "we got things moving."

PRODUCT PIZZAZZ. Down the coast, in Towson, Md., Archibald was pulling off his own rescue. Within three months of joining B&D as president in September, 1985, he had installed a new management team, had begun slashing 3,000 jobs, and had pushed designers to inject more pizzazz into sagging product lines. In March, 1986, he became chairman and CEO. Archibald had come to B&D from Beatrice Co., where he had managed a \$2 billion consumer durables unit. A devout Mormon with eight children, Archibald finds time after a 60-hour work-

week to teach an adult Bible class.

B&D innovators churned out some head-turning improvements: shelf-hugging coffee makers with thermal carafes, toasters with wider slots, and pricey food choppers. B&D started selling drill bits that lasted seven times longer than before. Powered ratchet wrenches and screwdrivers went cordless. For the construction site, B&D came up with battery packs to run cordless, heavy-duty drills and other tools. With all that, the payoff came fast: A \$160 million operating loss in 1985 turned into a \$34.7 mil-

A \$5 billion powerhouse of home, garden, and industrial products should emerge when the handiwork is over

lion profit in 1986, which doubled in 1987 and nearly redoubled last year—to \$125.7 million on \$2.3 billion in sales.

Unlike B&D, Emhart couldn't avoid Wall Street raiders while it recast itself. With its results and stock price pared by a fuzzy corporate identity and by a puzzling diversification into electronics, Emhart drew a \$35-a-share tender offer from New York's Topper Limited Partnership early this year. Enter Archibald as white knight, agreeing to pay \$40 a share. He had been eager to get B&D growing, and Emhart offered more synergy than his ill-fated \$2.5 billion quest

last year for plumbing giant American Standard Inc., which slipped away in an LBO.

The Emhart merger seems to be going smoothly. Archibald, 46, agreed to relinquish the chairman's title to Scott temporarily, to get his help in the transition. Scott, 62, plans to retire early next year—he'll remain a director—and his job now is advisory. In fact, his cherished move into information and electronic systems is the first unit slated for sale. Says a resigned Scott: "There can only be one CEO."

Scott, says Archibald, knows where the fat is, since he was only 20% of the way into his own cost-cutting effort when B&D came along. Closing Emhart's headquar-

ters in Farmington and eliminating 220 jobs there will save \$30 million. Consolidation in manufacturing and distribution will save a like amount. In the near future, for example, the combo will operate just two plants in Brazil instead of four.

TRY, TRY AGAIN. All of Emhart's 100 facilities worldwide are under scrutiny. Archibald expects to slash 10% from a combined \$1 billion in overhead. "We are very tenacious and aggressive when it comes to cutting expenses," he says. Selling off three Emhart operations—in information and electronics, the Dynapert circuit-board assembly machine unit, and a capacitor unit—could fetch \$750 million to \$1 billion. Other vulnerable Emhart segments: a footwear materials division and a glass machinery maker.

Charismatic and self-assured, Archibald thinks he has got the right stuff for this merger. He loves to illustrate how persistent a guy he is with this story: Cut from his high school basketball team three times, the 6-foot, 5-inch Archibald kept at the game long enough to become an All-American center at Utah's Dixie College and a standout at Weber State College, and later, after earning a Harvard MBA, to win an unsuccessful tryout on the Chicago Bulls. "Everybody in the world suffers setbacks," he says. "It's how one deals with setbacks and disappointments that ultimately determines success." Archibald's seldom on the basketball court these days. But coping with the overnight doubling in size of Black & Decker may be the ultimate test of his pluck.

By Joseph Weber in Towson, Md.

THIS COULD BE THE KEY TO KEEPING COMPUTER INTRUDERS OUT



STRAUB EYES OVERSEAS MARKETS WHERE COPYRIGHTS ARE TOOTHLESS

Computer hackers, software piracy, viruses. What's bad news for software companies and personal computer users is good news for Rainbow Technologies Inc. With headlines blaring concern about computer security, Rainbow has doubled sales and earnings for three years running.

The Irvine (Calif.) company makes products that protect software from pilferage. Its main offering is a \$25 matchbox-size key that software publishers package with computer programs. The key snaps into the back of a PC, and the program sends it coded electronic signals that it decodes and sends back. If the key isn't there, the program is useless.

Chief Executive Walter W. Straub sees big potential in software sold overseas—where copyright laws are laxly enforced. Last summer, Straub signed a multimillion-dollar contract with Microsoft Corp., which will attach the key to products destined for the Middle East. In February, Ashton-Tate signed Rainbow to a similar deal. Now, Rainbow is going after computer users, a much bigger market than software publishers. It has adapted its key so that individual users can shield their own data files from hackers and other intruders. Called Data Sentry, it sells for \$195 through computer dealers.

None of this has escaped Wall Street's attention. After Rainbow's 1988 profits soared 157%, to \$971,000 on sales of \$6.2 million, up 123%, the stock went wild. Since early January, Rainbow shares have nearly tripled, to around 17. Notes co-founder Alan K. Jennings: "Daily stories about computer viruses and hackers don't hurt." Just keep the bad news coming.

By Larry Armstrong in Irvine, Calif.

A BETTER GAUGE FOR MEASURING HOW HEART PATIENTS ARE DOING

For all the strides made in treating heart disease, doctors are still stumped when it comes to accurately measuring one vital sign: the amount of blood being pumped by the heart. For heart attack and bypass surgery patients, that's crucial. But the current method, which involves injecting cold water into the heart through a catheter, is time-consuming and cannot produce continuous readings.

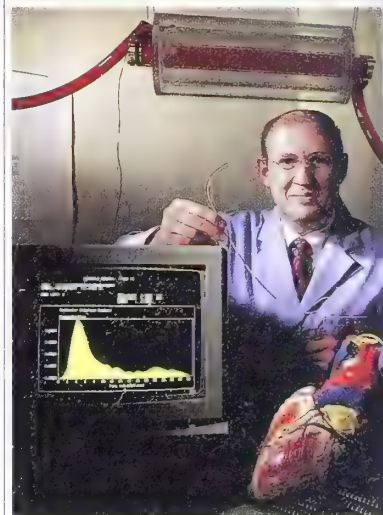
InterFlo Medical Inc., a Dallas-based startup, thinks it has a solution. Co-founder Dr. Mark L. Yelderman has patented a process that takes constant readings of cardiac blood flow,

eliminating the need for water injections. Doctors treating intensive-care patients could spot trouble at a glance. "And that could save lives," says Dr. George Noon, a top heart surgeon at Baylor College of Medicine who has reviewed InterFlo's technology.

The secret? Yelderman, who has degrees in both medicine and electrical engineering, realized that the same signal-processing technology used in low-level radar could be used with a catheter to monitor the flow of blood through the heart by tracking heat signals. Backed by \$2.1 million in venture capital, the company is now conducting tests to meet Food & Drug Administration standards. It hopes to ship its first product by late 1990.

Meanwhile, Yelderman and co-founder Stephen W. Griffin, a former medical-products salesman, are also developing a new catheter for measuring blood flow in coronary arteries. Griffin figures the two products could generate \$50 million in annual sales within five years. But first, InterFlo must get the FDA's nod and start generating a critical flow of its own: profits.

By William C. Symonds in Dallas



YELDERMAN APPLIES RADAR SCIENCE

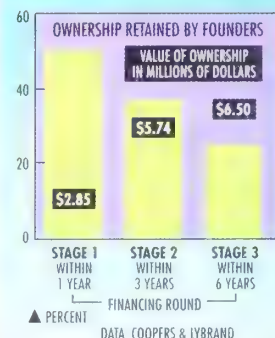
TRENDS

AS VENTURE CAPITAL FLOWS IN, CONTROL EBBS AWAY

Is venture capital worth pursuing? That depends on your outlook. Coopers & Lybrand, the big accounting firm, recently studied 85 high-tech startups to quantify the real cost of tapping the venture market. The conclusion: Successful entrepreneurs can enrich themselves handsomely, but they tend to relinquish control of their company in the process. On average, the study showed, by the end of three rounds of venture financing, the original entrepreneurs had sold 58% of their company to venture capitalists—while retaining just 25% for themselves. But the value of their stake grew 128% during the same period.

Some, such as Ronald T. Maheu, chairman of Coopers

& Lybrand's National High Tech Group, think the trade-off is worth it. "Real control is the ability to run the company successfully," Maheu says. "If you're pulling that off they won't mess with you." But those who would call it "vulture capital" can find ammunition in the data as well.



EVEN BEHIND THE SCENES, THE TIME-WARNER DRAMA HAS ITS STARS

Money manager Sarofim and Warner adviser Aboodi both have a lot at stake in the deal

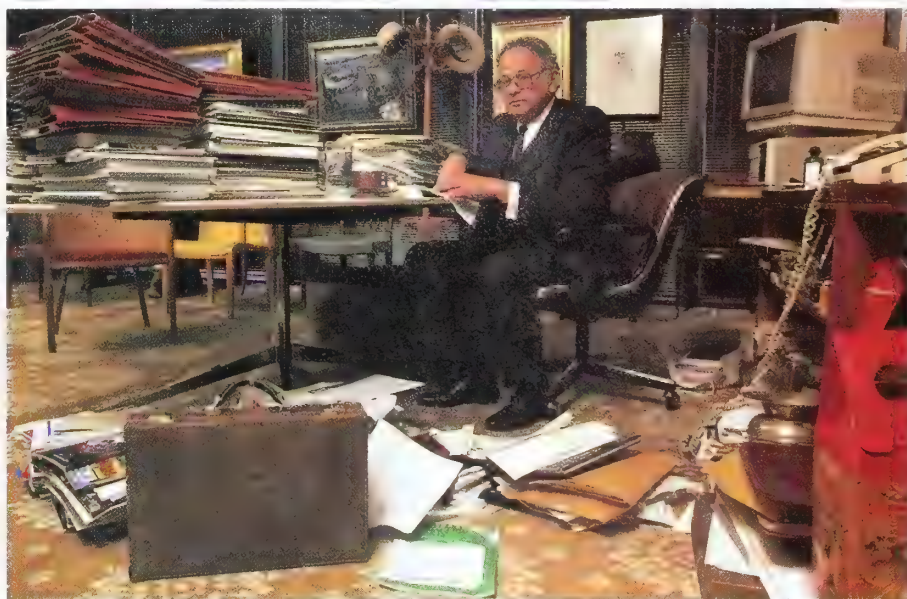
Steve Ross. Dick Munro. Marty Davis. They are the most visible players in the battle for control of Time Inc. (page 26). But while money manager Fayez Sarofim and numbers man Oded Aboodi may not have made many headlines, they both have huge stakes in the deal—one as an outside investor, one as an insider. Here are their stories:

FAYEZ SAROFIM HAS THE CONFETTI READY

On July 14, the day a Delaware judge ruled that Time Inc. could proceed with its takeover of Warner Communications Inc., a lot of money managers were fuming. Suddenly it was clear that shareholders wouldn't even get to vote on Paramount Communications Inc.'s \$200-a-share offer for Time, much less cash in on it. Wall Street responded by pushing Time's stock down 12 points, to about 137, in two days. But Fayez S. Sarofim—whose firm's 2.3% stake in Time makes him one of its largest shareholders—was actually happy with the judge's decision. Says Sarofim: "Sometimes you have to protect the investor from himself."

That's easy for him to say. Besides his 1.3 million shares of Time, Sarofim happens to hold 2.9 million shares of Warner. He even has a smaller position in Paramount. So he wins no matter what happens. But Sarofim, 60, insists he is only interested in seeing the Time-Warner merger go through, not in short-term profits. His reasoning: The combined operations would form "a premier, global company—a media-and-entertainment giant with long-term prospects."

GLOBAL REACH. Sarofim clearly is no ordinary money manager. But he's been beating the market by bucking conventional wisdom for 30 years, stringing together one of the most consistent records in the business. Except for brief periods in the early 1970s and the early '80s, he has outperformed the Dow Jones industrial average every year. In the 12 months ended Mar. 31, Sarofim's



SAROFIM IS ROOTING FOR TIME-WARNER—BUT WILL MAKE MONEY NO MATTER WHAT HAPPENS

overall portfolio was up 25.4%, vs. 18% for the Dow and 15% for other money managers.

From his modest headquarters in downtown Houston, Sarofim now commands \$14 billion in investments, about 80% of which is in equity funds. This makes him one of the nation's biggest money managers. His clients include such big names as Lockheed, Ford, Avon, and a slew of state pension funds and college endowments. Sarofim owns 71% of the firm, taking home an estimated \$5 million in salary and dividends.

His strategy is deceptively simple: He chooses large companies with strong franchises, niches or other competitive edges, growing cash flow, healthy balance sheets, and a proven management

team. He also tries to find companies with global operations—which leave them less exposed to the whims of one market—and those having enough critical mass to "take the right risks to stay ahead." Still, he's not above jumping into smaller, unproven companies if they show promise. He got into big market performers such as Intel Corp. and Tele-dyne Inc. years before they took off, and he was a cheerleader for energy stocks in the early 1970s. Says his Harvard University classmate Arthur Rock, the legendary venture capitalist: "When it comes to a feel for the market, he's hard to beat."

But not impossible. His long-term view cost him dearly when energy prices crashed in the early 1980s. His portfolio, 40% of which was then in energy stocks, sank 7.8% in 1981, according to Wilshire Associates, an investment consulting firm. Since 1983, he has whittled back his energy stocks to 15% while moving into other areas such as nondurable consumer goods.

Yet Sarofim's trademark remains a consistent, almost unshakable confidence in the market. Even during the crash in October, 1987, he refused to budge. Meredith J. Long, a Houston art

SAROFIM'S RICHEST HOLDINGS

Company	Shares held* Millions	Market value** Millions
PHILIP MORRIS	5.8	\$830.9
COCA-COLA	8.4	483.0
MERCK	6.4	454.4
GENERAL ELECTRIC	7.8	417.3
FORD MOTOR	6.5	312.8

* As of Mar. 31

** As of July 14

DATA: CDA INVESTMENT TECHNOLOGIES INC.

dealer and longtime client, remembers telephoning Sarofim to find out what he was doing, only to be told that the market was overreacting. "Go fishing for four days," Sarofim told Long. "It'll all blow over."

Sarofim, the son of a wealthy Egyptian landowner, has been bullish on the U.S. ever since he arrived here in 1946. After earning his Harvard MBA, he worked in the finance department at Anderson Clayton & Co., a cotton and food products company that has since been dismantled. Then, with \$100,000 from his father, he launched Fayez Sarofim & Co. in 1958. Four years later, he married Louisa Stude, the niece of Brown & Root Inc. co-founder George Brown, who plugged him into a network of important Texas contacts.

'IN HIS HEAD.' Sarofim's desk is cluttered with dozens of research reports, a testament to his voracious reading habits. Colleagues describe him as a walking encyclopedia. "He can tell you p/e ratios on every company we follow," says Raye G. White, executive vice-president and co-founder. "He never uses a computer—it's all in his head." Generally he shuns big social events, flashy parties, and publicity. But that may be hard to avoid, as Louisa has filed for divorce. Since he's believed to be worth more than \$250 million, the settlement could be enormous. Adding to the divorce's soap-opera quality is the news that Sarofim has three children by a longtime girlfriend.

Although he has huge stakes in hundreds of companies, Sarofim sits on only two boards—Teledyne and Argonaut Group Inc., a Teledyne spinoff. He joined Teledyne's board three years ago at the company's request and is an outspoken contributor, says George Roberts, chief executive. He's had a lot to talk about: The Pentagon's "Ill Wind" probe turned up several instances of contract fraud early this year. Then Chairman Henry E. Singleton stepped down from daily operations. And now, with profits heading downward, Teledyne is thinking about spinning off two insurance units that account for about 25% of its business.

He'll have to keep watching the Time deal from the sidelines, but he should like what he sees. If Time buys Warner for \$70 a share, Sarofim will make a profit of \$119 million on Warner's stock, which he bought over several years for an average \$29 a share. That should ease the pain of missing an opportunity to sell his Time stock at a fat premium. Sarofim still maintains that Time's original plan to buy Warner in a debt-free stock swap was a better deal. But even so, he believes the combined company

would be able to handle its total debt of up to \$15 billion.

The rest of the world looks equally bright to Sarofim. He considers stocks a bargain, so he's snapping them up. Recent buys include Marriott, A&W Brands, and Sterling Chemicals. Now, he sees positive signs abroad with the arms race slowing. He assumes this will free up billions of dollars to flow into international trade, "opening up all kinds of new opportunities for U.S. companies." Of course, the payoff could be years down the road. But Sarofim has always been willing to wait.

By Mark Ivey in Houston, with Eric Schine in Los Angeles

ED ABOODI CAN'T DUCK THE SPOTLIGHT NOW



ABOODI: ONCE A WALLFLOWER, NOW A MAJOR PLAYER

Ed Aboodi stands apart from the pack. Quiet and publicity-shy, he isn't a celebrity like some of Wall Street's headline-hungry investment bankers. Nevertheless, he's emerging as a key player in Warner Communications Inc.'s battle to merge with Time Inc. Aside from Chairman Steven J. Ross, "Ed Aboodi was the main negotiator throughout for Warner," according to Martin D. Payson, Warner's general counsel.

For two decades, Aboodi, 47, has served Ross as a financial adviser and a close friend. A trained tax accountant and head of tiny Alpine Capital Group, Aboodi was there two years ago when Time and Warner first discussed a joint venture in cable TV. When they decided to merge, Aboodi's influence deepened. Thanks largely to his shrewd negotiating, Warner stands to receive control of

the compensation committee of the combined companies. Aboodi also helped negotiate the conversion of Ross's Warner stock rights into stock options in the new company. Ross could earn an astonishing \$200 million over the next 10 years, depending on the company's performance.

GO-BETWEEN. Some, including Time suit or Paramount Communications Inc., contend that Aboodi and Ross outmaneuvered Time. In court papers, Paramount charges that other Warner investment bankers described the original exchange ratio of .465 Time shares for each Warner share as "a hell of a deal" for Warner. The swap was changed to an all-cash bid when Paramount stepped into the fray.

Aboodi was also an important go-between for the various parties. "Ed was always a person that the lawyers could go to if Steve was unavailable, or if it

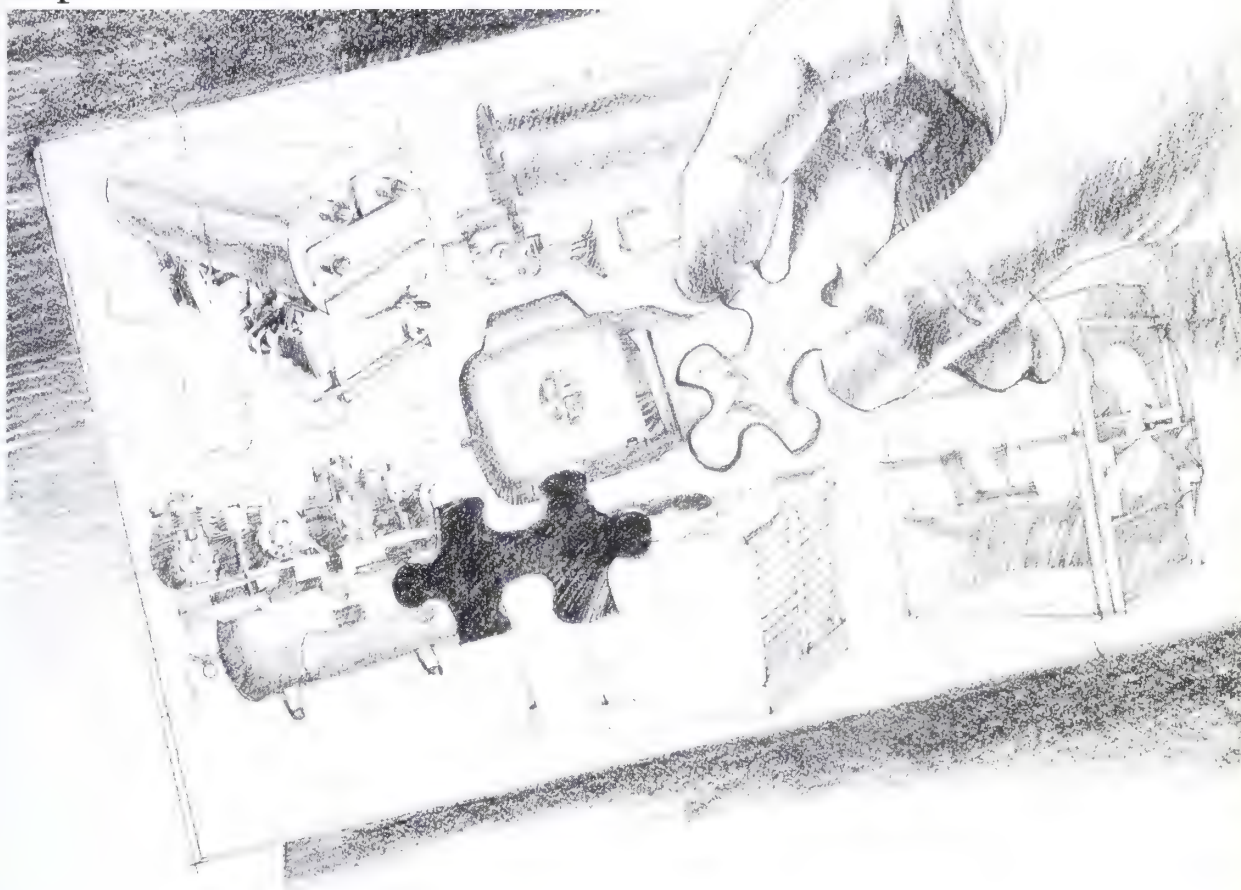
was premature to speak to Steve," notes Arthur L. Liman, Warner's outside counsel and a partner with Paul, Weiss, Rifkind, Wharton & Garrison. When Paramount first made its hostile bid for Time, Ross immediately dispatched Aboodi to meet with Time Vice-Chairman Gerald M. Levin to make sure that the Time-Warner agreement was still on. Ross and Aboodi declined to be interviewed.

Aboodi followed an unusual path to the dealmaking business. Born in Jerusalem, he emigrated to the U.S. in 1956 and received an undergraduate degree and an MBA from New York University. He worked for Arthur Young, managing the Warner account, for 15 years. In 1980, Ross encouraged Aboodi, by then an Arthur Young partner, to form his own firm. About half of Alpine's business comes directly from Warner. His clients include Andal Corp., a small metals company, and several other companies that are operated by former Warner executives.

Aboodi has helped Ross on many deals. He assisted in Warner's acquisition of Lorimar-Telepictures Corp. last January. And in 1987, he was pivotal in its takeover of Chappell & Co., which owned the publishing rights to such musical legends as Cole Porter and George Gershwin. At the time, other investment bankers proposed all-cash packages to Chappell's principal investors. But Aboodi offered them Warner equity securities worth about \$100 million. Says James A. Harmon, ex-chairman of Chappell: "It was Ed Aboodi who convinced me to do the deal."

By Jon Friedman in New York

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GREENSPAN'S MOMENT OF TRUTH

CAN HE MANAGE A SOFT LANDING WITHOUT SKIDDING INTO A RECESSION?

Tuesday, June 27. Wall Street awoke to a flurry of rumors. Federal Reserve Board Chairman Alan Greenspan had been felled by a heart attack. He was about to resign. It was the sort of news that can send markets tumbling.

In fact—as the Fed swiftly announced—Greenspan was merely suffering from heat exhaustion. On Monday, the 63-year-old chairman put in his customary 10 hours at the office, then played a tennis match in Washington's 94F heat. Next, he dashed off to a dinner party at the home of Commerce Secretary Robert A. Mosbacher. Sometime after dessert, Greenspan collapsed and was rushed to the hospital.

Early the next morning, Greenspan got a telephone call from his longtime friend George Bush. Reassured that the Fed chief would be back at work in a few hours, Bush joked: "If you raise interest rates, I'm going to put a crimp in your oxygen line."

Greenspan laughed at the jibe. But both he and Bush knew that the President had it backward. Bush can do relatively little to influence the independent Fed. But Greenspan has his hand on the economy's lifeline. If his zeal for fighting inflation brings on a recession, he will leave the President's agenda a smoking ruin. Increasingly, nervous White House aides fear that the Fed's caution may have already made that inevitable. "Greenspan," frets one, "is just much too tolerant of a recession."

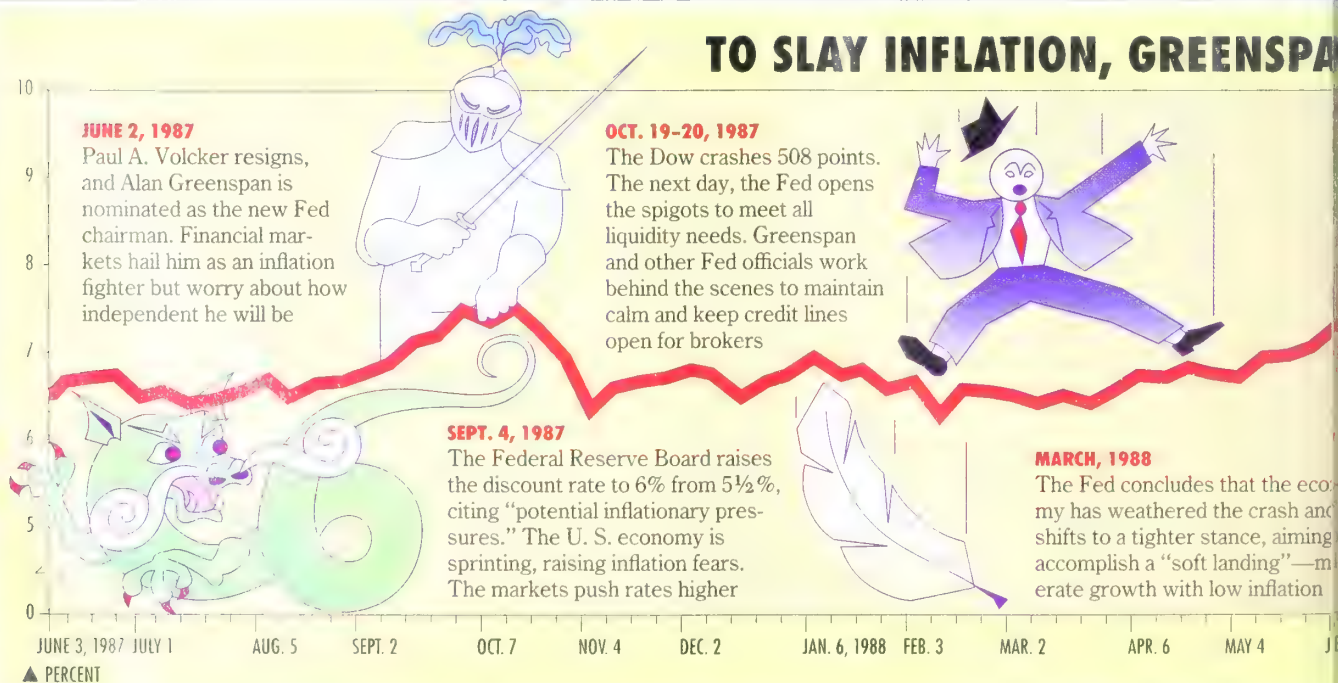
DELICATE MANEUVER. As he tries to keep a slowing economy from sliding into a downturn, Alan Greenspan is facing his toughest test yet. Sixteen months after the Fed began to put the brakes on the economy, business is slowing sharply: Industrial production dipped 0.2% in June, retail sales fell 0.4%, and exports are slowing. At the same time, though, inflation may be beginning to cool off. If the economy doesn't get any weaker and prices are well-behaved, then Greenspan

may have successfully engineered the fabled soft landing—a delicate maneuver designed to check inflation by holding growth just below the economy's long-term potential. It's a feat that no Fed has ever accomplished before.

For the record, the Bush Administration pronounces itself pleased with Greenspan's performance. "Thus far," says Council of Economic Advisers Chairman Michael J. Boskin, "the Fed has done a good job in the tough balancing act between controlling inflation and sustaining growth." Certainly few forecasters are betting on a downturn. The Administration's latest forecast is for real gross national product to grow 2.7% this year, while private economists expect growth to be closer to 2%.

But tension—and a bit of cold fear—lurk beneath the surface. It's still too soon to tell whether Greenspan's maneuver will overshoot and send the economy into recession. The consequences of recession now could be especially painful.

TO SLAY INFLATION, GREENSPAN



The \$160 billion budget deficit would climb. Over-leveraged companies might default, jeopardizing banks holding their paper. And debt-rushed Latin American nations, robbed of their best market, could face deeper political chaos.

WINNING STREAK. Boskin is one of several top administration officials who have privately expressed concern that the Fed is overdoing it. Warns one Treasury official: "The Fed ought to admit that they've succeeded and ease up before the soft landing turns into a crash."

But inside Greenspan's Fed, officials assign a very different weight to the risks.

Recognizing the slowdown, the Fed has begun to ease slightly: The key federal funds rate is at 9.25%, down from its April peak of almost 10%. Few Fed policymakers, however, see any need, as one senior official puts it, to "foam the runway." And a sizable bloc of "inflation hawks" within the Fed argues that the central bank must concentrate on bringing inflation down from its current rate of about 4.5%. "The soft landing is not an objective—the objective is price stability," says W. Lee Hoskins, president of the Cleveland Fed. If that can be achieved only at the cost of slow growth or a recession, he reasons, so be it.

Greenspan's job is to pull together



THE FED CHIEF IS A NUMBER-CRUNCHER, DIPLOMAT, POL, AND PHILOSOPHER

these disparate views, melding a consensus that directs the economy toward price stability without sending business into a steep decline. He is wary of reversing course too soon. If the Fed were to cut interest rates sharply, growth would revive, inflation would keep creeping up, and eventually the Fed would have to slam the brakes that much harder. And so far, a quick reversal doesn't seem necessary. Greenspan doesn't see the economic imbalances that create recessionary shocks—sudden credit crunches, for example, or big inventory pileups.

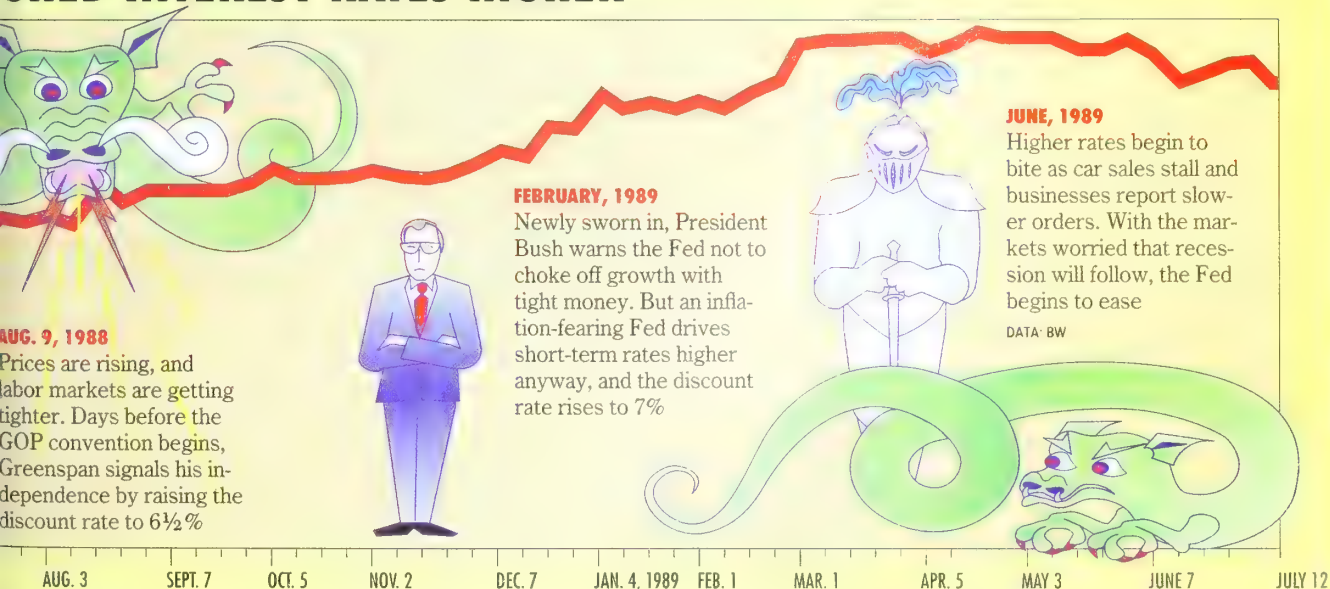
So for now, Greenspan will try to extend the streak of skill and good fortune

that he has been riding ever since Ronald Reagan tapped him two years ago to take over at the world's most powerful economic institution. Greenspan has restored a measure of collegiality to a fractious institution and shown great skill at calibrating monetary policy. In the process, he has made government and financial leaders around the world put aside the qualms many felt when he was picked to replace the revered Paul A. Volcker.

COMPLEX. Greenspan has earned that confidence. Shortly after arriving at the Fed in August, 1987, he ordered a contingency plan for a financial market calamity. Although some critics believe the Fed helped bring on the stock market crash in October by raising the discount rate the previous month, the Fed nonetheless moved swiftly to contain the damage after the crash. By March, 1988, when most forecasters were still predicting that the market plunge would bring the economy down, Greenspan decided that the worst was over and shifted toward restraint. Since then, the Fed has kept the economy growing and inflation in check.

Greenspan's fixation on fighting inflation—dubbed "root-canal economics" by some—still worries critics (page 61). But Greenspan is much too complex to fit

SHED INTEREST RATES HIGHER



any neat stereotype. Always intense, the Fed chairman is part number-cruncher, part savvy bureaucratic operator, part diplomat, part socialite, and a bit of a philosopher to boot.

■ **The pol.** A hard-money conservative, Greenspan was an informal adviser to Richard Nixon, headed Gerald R. Ford's CEA, and advised Ronald Reagan in 1980. In the Ford White House, "his advice was always as much political as it was economic," says L. William Seidman, a fellow Ford aide who now runs the Federal Deposit Insurance Corp. Sometimes, however, good economic advice made for

bad politics. Greenspan warned Ford against stimulating the economy when it slowed in the summer of 1976. The economy recovered, but Ford's election hopes didn't.

At times, Greenspan has seemed too political. His immersion in GOP politics—he was one of a few key Ford aides who explored the idea of a Reagan-Ford "co-Presidency" at the 1980 convention—disturbed liberal Democrats. They worried that his Fed would be far too willing to do the White House's bidding. But if the 1988 election is any guide, Greenspan is no Administration patsy. He kept money tight through the campaign, even raising the Fed's key discount rate on the eve of the Republican convention.

While Greenspan has been careful to maintain independence on monetary policy, he has been deeply involved in helping set the Administration's course on other issues. He worked closely with Treasury and the White House, for example, on Bush's savings and loan rescue plan. He breakfasts weekly with Treasury Secretary Nicholas F. Brady and talks almost daily to Boskin and frequently to Bush. Greenspan has also worked to open lines of communication with key congressional Democrats.

■ **The master bureaucrat.** Greenspan's most astute political moves, however, take place far from public view, inside the paneled chambers of the Fed. Greenspan inherited an unhappy and divided institution. The four members of the Fed's Board of Governors who had served under the heavy hand of Volcker were ready to assert their independence. These Reagan appointees wanted to fo-

cus more on keeping the economy growing. But many of the presidents of the Fed's 12 regional banks were "inflation hawks" who shared Volcker's passion for therapeutic squeezing.

To weld this fractious Fed together, Greenspan moved quickly to build rapport with key players. Before his confirmation hearing, Greenspan spent hours with New York Fed President E. Gerald Corrigan, a Volcker protégé and leader of the hawks. He tapped Vice-Chairman Manuel H. Johnson, a supply sider, to direct the Fed's crisis planning. These days, Greenspan leans heavily on John-

...but in terms of making policy, the middle group decides."

At the middle and lower echelons of the Fed, Greenspan is proving a more popular chairman than Volcker. He endeared himself to the staff by helping push through a new pay scale that raised top staff salaries to about \$112,000, which is \$22,500 more than members of Congress earn.

Like Volcker, says a senior staffer, "Greenspan listens more than he talks." But unlike Volcker, he adds, "Alan doesn't ignore people who disagree with him." In his heyday, Volcker could se-

the Fed's course and drag the rest of the Federal Open Market Committee to his point of view. Greenspan feels out the group consensus, then shapes it.

Greenspan showed his leadership ability during the tense week of May 29. The effects of 14 months of steady tightening were being felt in stagnant auto sales and weakening consumer spending. Vice-Chairman Johnson and Governor H. Robert Heller publicly voiced fears that the slowdown was going too far. Gathering after the Memorial Day weekend, a strong majority of the governors—including Greenspan—felt it was time to ease.

The chairman convened a telephone conference of the FOMC, drawing in the regional presidents, five of whom are voting members. To them, the outlook didn't seem so bleak, and they wanted to keep the pressure on rates. Even as the economy slowed, prices would continue to rise, they argued. The Fed shouldn't back down too soon.

Through two conferences, on Tuesday and Wednesday, the committee remained deadlocked. Greenspan had the votes to force the issue—but he wanted consensus endorsement of a policy change. Word of a serious split within the Fed would roil markets that were already nervous. So Greenspan put the debate on hold. By Monday, May's employment statistics and the monthly purchasing managers' survey would be out. Greenspan expected the numbers to make a case for easing.

Sure enough, both reports showed the economy weakening. On Monday, most of the presidents came around. But rath-



ANGELL AND JOHNSON: PEACEMAKER GREENSPAN HAS COURTIED THEIR SUPPORT

son to serve as his ambassador to pro-growth governors.

And the Fed chief has cemented relations with Governor Wayne D. Angell, a key swing vote, by becoming his regular tennis partner. Angell insists he was never squelched by Volcker, but he clearly has come into his own under Greenspan—making more speeches and avidly pursuing pet research projects, such as the use of commodity indicators. Angell sees his role as a pivotal one: "The interesting thing about the politics of monetary policy is you tend to have perennial bulls and perennial bears

To weld the fractious Fed, Greenspan quickly established rapport with key players

WHY ARE THEY SAYING THESE TERRIBLE THINGS ABOUT ALAN GREENSPAN?

Forget the soft landing. Alan Greenspan's Federal Reserve Board has already set the economy up for a crash. Through monetary overkill—two years of the slowest money growth since the 1950s—the central bank has panicked consumers and crushed the housing and auto industries. For what? Just to beat down an imaginary threat of inflation that had spooked a few bond traders.

So say the outspoken critics of the Greenspan Fed—a relatively small agglomeration of usually warring monetarists, Keynesians, supply siders, and politicians. On this they can agree: The central bank has overdone its restraint. Here are their battle cries:

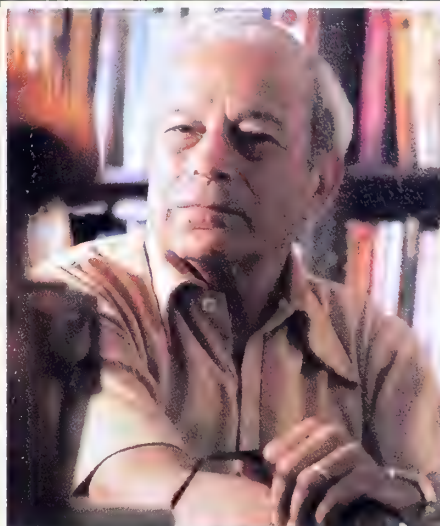
■ **Steady as she goes.** The Greenspan Fed presents a problem for monetarists. On the one hand, they can't praise him highly enough. "Alan Greenspan is the best Fed chairman I've seen," says Allan H. Meltzer, founder and chairman of the monetarist Shadow Open Market Committee. Milton Friedman's disciples like this Fed's constant talk about price stability and exploration of quasi-monetarist ideas such as the P* index (page 66).

On the other hand, Greenspan's two-year squeeze on the money supply—during which narrower money measures such as M1 barely grew at all—is too much even for the monetarists. Now, they're complaining about an overly tight Fed. Jerry L. Jordan, chief economist at First Interstate Bancorp in Los Angeles, predicts a nine-month recession starting this summer and warns that the Fed's refusal to ease until June will make the recession "deeper and longer than necessary."

The bigger danger, Meltzer says, is that Greenspan will panic when he sees the economy slowing sharply. Then the Fed will swing too far back toward easy money, repeating the stop-start pattern that has plagued monetary policy for decades. "Greenspan has had a great opportunity to bring down inflation," Meltzer says, "but I'm afraid he'll blow it."

■ **Damn the torpedoes.** By moving to head off inflation before it surged, Greenspan managed to offend two diametrically opposed groups of critics, hardline supply siders and Keynesian liberals. Both camps reject the idea of an economic speed limit, the notion that an economy running flat out at full capacity will ignite inflation.

That might have been true, says sup-



EISNER: GREENSPAN IS "PLAYING WITH FIRE"



RAHN: "THE FED IS FUNDAMENTALLY FLAWED"



MELTZER: "I'M AFRAID HE'LL BLOW IT"

ply sider Paul Craig Roberts, back in the 1960s and '70s, when "high tax rates, heavy regulation, and high wages" put limits on growth. But now, with the tax cuts of the 1980s providing greater incentives to producers, rising demand will lead to rising output, not rising prices, says the former Reagan Treasury official. "The Fed hasn't realized yet that we're in a supply-side economy," Roberts says. "They think growth causes inflation."

Liberal Robert Eisner agrees that growth poses no threat: "We've never had a peacetime inflation caused by an overheated economy," the Northwestern University economist says. Besides, he adds, today's economy is nowhere near overheated. By trying to slow the economy, Greenspan "is playing with fire. A soft landing is better than a crash landing—but there's nothing wrong with a flying economy."

■ **Throw the bums out.** There are those who are convinced that the Fed will never get it right, that the institution is too obsessed with fighting the inflationary dragon to see the real-life effects of its policies. Grumbles Richard W. Rahn, chief economist at the U.S. Chamber of Commerce: "The Fed is fundamentally flawed. You can't take a group of individuals and say, 'Go out there and be smarter than the markets.'" Greenspan may have the right instincts, Rahn allows, but he's the captive of an institution with conflicting missions—controlling inflation while also worrying about growth and the health of the banking system.

Others say that the Fed's actions benefit or hurt specific groups. The United Auto Workers, for example, published a comic book for its members this spring, showing glitzy couples rejoicing over higher interest rates. "Thanks a *million*, Alan Greenspan!" a Mr. Moneybags character exults. Some conservatives, meanwhile, rail that business is hurting. Representative Chuck G. Douglas (R-N.H.) confronted Greenspan at a Capitol Hill meeting. "The green-eyeshade crowd can do their thing, but those of us in Congress have to go home every weekend and see the people," Douglas complains. "I'm seeing a massive slowdown in New Hampshire." Recent interest-rate declines will placate some. But if the economy turns south, Greenspan's critics will grow louder and more numerous.

By Mike McNamee in Washington

er than force a couple of diehard hawks to swallow their pride for the sake of harmony, Greenspan avoided a formal vote. He asked the FOMC to give him the leeway to loosen the Fed's grip. The effect was the same—the Fed's key target interest rate fell by one-quarter of a percentage point the next day. But in the Byzantine politics of the Fed, Greenspan's apparently modest victory was a triumph of timing and persuasion.

■ **The number-cruncher.** Greenspan's ability to shape policy depends largely on his skill as a business forecaster with an instinctive feel for markets and data. Even with the Fed's computer models and highly skilled economists at his disposal, he still prefers his numbers served up raw and in large portions. He revels in the Fed's unequalled access to confidential business information.

His fascination with numbers is not new. As a boy in Manhattan's Washington Heights, he developed a complicated system to score the 1936 Yankee-Giants World Series, pitch by pitch. After graduating from New York University in 1948 with a degree in economics, Greenspan got a job with the Conference Board. Studying the steel and aluminum industries, he began to develop his concept of how the economy functions based on his understanding of how individual markets interacted. "Alan always tried to understand a market, or the economy, from the viewpoint of the players," says a former associate. "He'd say, 'If they're following their rule of thumb, it doesn't matter whether some economist thinks it's optimal or not.'"

In 1953, Greenspan joined the small consulting firm that would become Townsend-Greenspan & Co. Within a year, he was president and the firm's main asset. By the time Greenspan dissolved the company in 1987, a number of America's largest corporations were clients, and he was a wealthy man, with a net worth of \$4 million to \$5 million.

Greenspan treated economists at Townsend-Greenspan as colleagues—and with much the same attitude toward the Fed's elite staff. Unlike Volcker, who preferred to deal only with the top echelon, Greenspan has reached deep into the Fed's cadre of economists for data and research. For example, the

chairman worked closely with third-level staffers on the research project that developed "P*," a new way to measure long-term price pressures (page 66).

■ **The diplomat.** When he came to the Fed, Greenspan had no experience in the world of international central banking—an arena in which Volcker excelled. His postcrash response helped earn him his spurs. Greenspan is also spending more time on global issues than he expected. For instance, he ordered a study of whether the soaring Tokyo stock market was in danger of a blowout. Finding: The risks are overstated.

The Fed chief has also worked hard at international meetings to build relationships with his foreign counterparts, who

ists only to protect individual rights and that capitalism is the most moral as well as the most efficient economic system.

Yet Greenspan often finds his libertarian philosophy at war with his practical streak. As chairman of President Reagan's National Commission on Social Security Reform, he recommended both higher taxes and enlarging the retirement system to cover more Americans. Unlike "Calvinist" Volcker, says an official who worked with both men, "Greenspan tends to say, 'This is the way the world is, and I must deal with it.'"

Still, his first instinct is always to favor the free market. Treasury's Brad DeLong learned that last winter, when he was fashioning his plan to forgive some

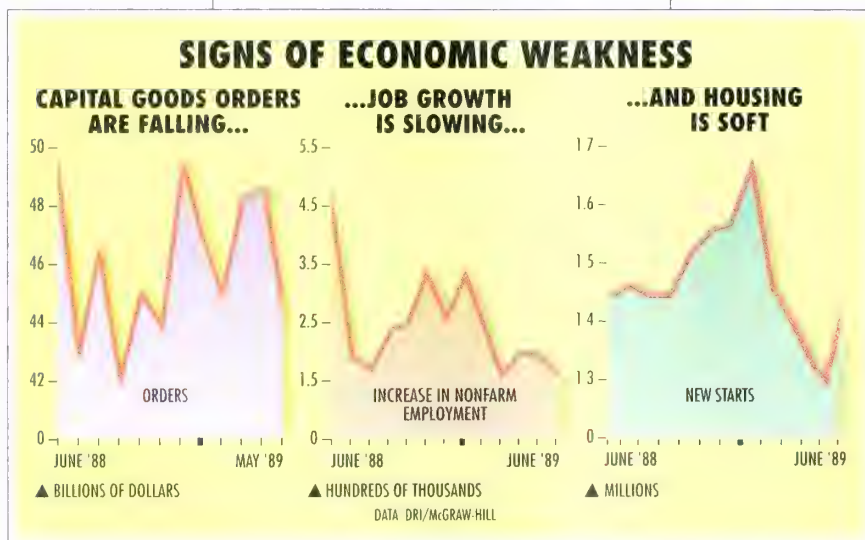
Third World debt. Greenspan couldn't block the plan outright, but he was able to persuade Treasury to scale it back and proceed more cautiously.

■ **The man-about-town.** An owlish, intensely serious man, Alan Greenspan isn't anyone's idea of a party animal. Yet this wallflower has become a fixture of the Washington social scene. A lifelong bachelor save for a brief marriage in the 1950s, Greenspan

has escorted many prominent women. For the past year, his constant companion has been NBC-TV Capitol Hill correspondent Andrea Mitchell, and the two frequently entertain such longtime chums as Democratic power broker Robert S. Strauss, Defense Secretary Richard B. Cheney, and financiers Frank C. Zarb and Felix Rohatyn, as well as Fed colleagues.

Several times a week, Greenspan plays a set or two of tennis. Frequent partner Angell describes the chairman as "a backcourt player. I'm more the McEnroe type—charge the net, force the shot. But he's a Borg—stay back and place the ground strokes."

That slow-and-steady baseline style best describes monetary policy in Greenspan's Fed. Past anti-inflation campaigns have produced recessions because the central bank hesitated too long and then clobbered the economy. This Fed squeezed gradually for nearly a year and a half, waiting to see the effect of each move before taking the next step. Some officials take credit for this approach—Angell claims he and Johnson plotted the Fed's course as far



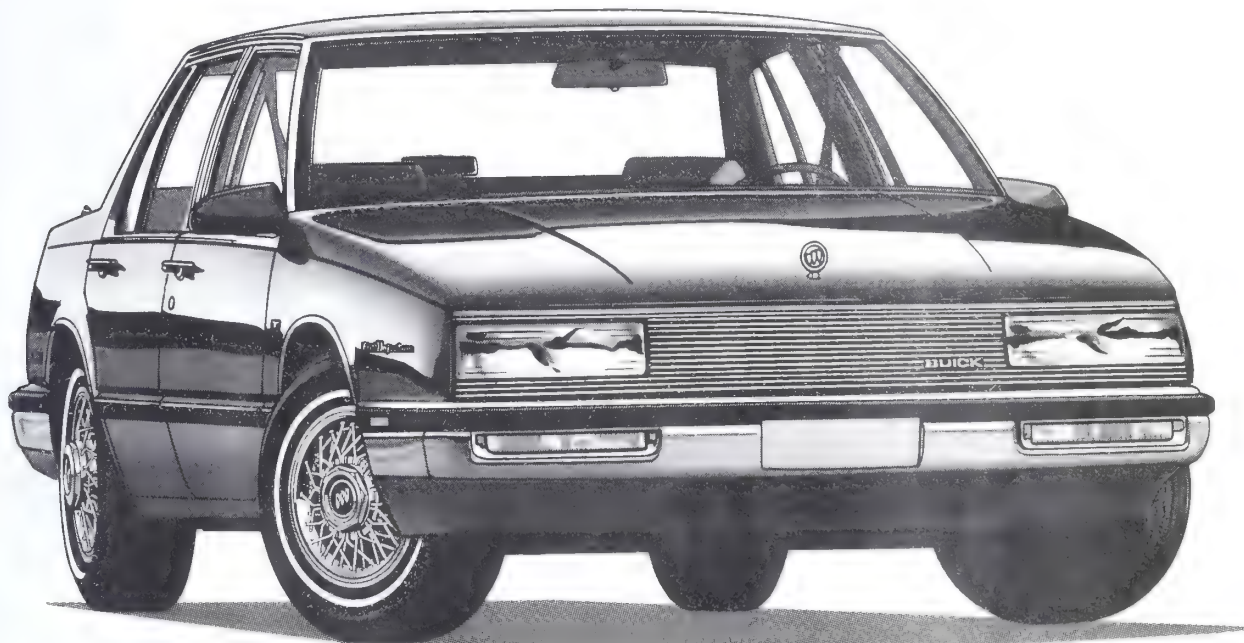
find his style a refreshing contrast from Volcker's lectures. Greenspan "is very brilliant in his presentation," says Karl Otto Pöhl, president of the West German Bundesbank. "It's always a pleasure to listen to him."

Unlike Volcker, Greenspan is wary of efforts to manage the value of the dollar. Greenspan prefers stable exchange rates—but he's not willing to slack off in the fight against inflation just to maintain the dollar within a currency zone.

■ **The philosopher.** By inclination, Greenspan tends toward a sharply restricted role for government in society. He learned his extreme individualism from the late author Ayn Rand, who befriended the young economist in the 1950s. She taught Greenspan that government ex-

Greenspan is no party animal, but he has become a fixture on the Washington social scene

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Cover Story

back as January, 1986. But a more likely explanation is that gradualism resulted from the internal tug-of-war between hawks and doves: "A lot of people like me wanted to move quickly, and others wanted to go slowly," says Cleveland's Hoskins.

However it evolved, the course of action paid off, and Fed policymakers aren't ready to drop their caution. When the FOMC gathered on July 5 to set its goals for the next 18 months, its members seemed ready to continue easing—a little. But even if the economy touches down gently, the struggle will go on

within the Fed. Both the governors and regional presidents have committed to the goal of "price stability"—bringing inflation to zero and holding it there. The hawks are willing to keep the economy sluggish for a long time to achieve that goal: "You can't settle for one or two quarters of relatively slow growth and expect that to cap and cut inflation," says San Francisco Fed President Robert T. Parry. But the progrowth governors prefer a less painful route: Let the economy expand, then count on investment and rising productivity to keep price pressures at bay.

Greenspan will continue to be the man in the middle, wheeling, cajoling, and as always, poring over his precious printouts. "In fiscal policy, you can say the desire is to get the deficit down to 1% for the fiscal year, and you know on Sept. 30 if you've succeeded," Greenspan says. "But monetary policy is around the clock, 24 hours a day, forever. You never reach a point where you shut up shop and break out the champagne. No should you."

By Mike McNamee in Washington, with Blanca Riener in Paris and John Templeman in Frankfurt

PUTTING 'KEYNES'S HEAD ON MILTON FRIEDMAN'S BODY'

During 34 years as a business forecaster, Alan Greenspan learned that clients aren't interested in buying ideology. If the most accurate forecast results from a mix of monetarism and Keynesian fiscal theory, a smart forecaster will mix away.

The same spirit lies behind P* (pronounced P-star), the Federal Reserve Board's recently unveiled device for measuring the effects of monetary policy. Inspired by a research request from Greenspan, the new indicator is a theoretical mishmash, "like putting John Maynard Keynes's head on Milton Friedman's body," says Robert V. DiClemente, senior economist at Salomon Brothers Inc. But P* could prove to be useful to the Fed in stabilizing prices over the long term.

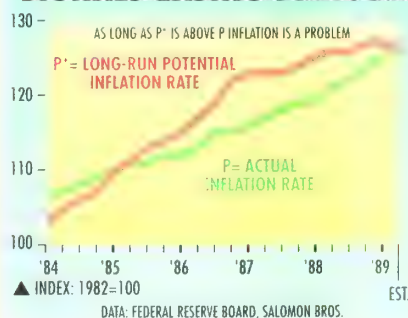
P* addresses the fundamental quandary of monetary policy: How to achieve a vital objective—noninflationary economic growth—with the highly imprecise tool of controlling the money supply. The task shouldn't be difficult. Every dollar the Fed puts out changes hands some number of times in the course of a year, a rate known as the "velocity" of money. Those dollars times velocity equals gross national product—the dollar value of all goods and services produced. So, theoretically, by controlling the money supply, the Fed could control the level of GNP.

SHARP SWINGS. In recent years, however, central banks have found that the link between money supply and GNP is tenuous. Controlling money-supply growth is tough and financial deregulation has made it tougher. As interest rates fluctuate, the demand for money shifts, and velocity can swing sharply. But over long periods of time, Fed researchers found, the velocity of a broad measure of the money supply, M2, is remarkably stable: Since 1955,

\$1 in new money consistently created \$1.65 in nominal GNP.

That \$1.65 in output could mean more widgets or higher prices. Keynesian theory says that real GNP is determined by productivity and the size of the labor force. Keynesians figure potential or full-employment GNP to be the output that would be generated if labor and capital resources were fully utilized. Any effort to push GNP above this potential yields higher prices, not more output. Most economists agree that potential GNP is growing by 2½% to 3% a year.

A NEW PRICE INDEX SIGNALS EASING PRESSURE



By multiplying the quantity of M2 in circulation by 1.65 (its long-term velocity) and dividing by potential GNP, Fed researchers arrive at a number they call P*. Then they compare P* with the economy's actual price level—call it P. If P* is above P, the current money supply is growing too quickly relative to potential GNP, and inflation will rise after a lag. If P* is below P, the money supply is growing too slowly relative to potential GNP, and prices should back down.

The method may be a Frankenstein's monster of monetarism and Keynesian-

ism, but the Fed staff's work shows that it has an impressive track record as a forecasting tool. And currently, P* is sending out encouraging inflation signals. Estimates for the second quarter show that P* dropped below P for the first time since 1984, indicating that the Fed's 16-month tightening campaign is going to pay off with lower inflation.

UNPREDICTABLE. But the relationship works only in the long run, and no one can be sure when the payoff will come. When P* fell below P in 1978, inflation topped out two years later. But P* has been above P since 1984, and inflation didn't accelerate until mid-1988. "It's not going to do Fed-watchers a lot of good on following current policy," says Stephen H. Axilrod, a former senior Fed staffer.

Nor is this method of inflation-forecasting universally accepted within the Fed. "P* has the right objective—price stability—but I'm worried about that assumption that [potential GNP] grows at just 2.5%," says W. Lee Hoskins, president of the Cleveland Fed and a leading monetarist. And Fed Vice-Chairman Manuel H. Johnson warns that "it's risky to be basing policy on two variables that are subject to shocks and shifts."

P* has a friend where it counts, though. For Greenspan, it provides an answer to critics worried about the Fed's stretch of tight money under his guidance: Since P* was well above P when the Fed campaign began, the Fed has simply been burning off excess money that otherwise would lead to higher prices. Most important, P* might help Greenspan achieve long-term price stability—a goal that he believes to be the legacy of a great Fed chairman.

By Mike McNamee in Washington

For over 50 years, Saudi Arabia and the United States have shared a dream for their people.



King Fahd of Saudi Arabia, President Bush.



King Fahd, President Reagan
1985



King Khalid, President Carter
1978



King Faisal, President Sadat
1984



King Saud, President Eisenhower
1962



King Abdul Aziz, President Roosevelt
1945



A dream fulfilled.

The July 1989 meeting in Washington of King Fahd of Saudi Arabia and President Bush underscores the long-standing friendship of the two countries.

For over a half century, Saudi Arabia and the United States have worked together to develop a *special relationship*. One based

upon not only common interests, but also the bonds of trust and understanding.

So, during the last five decades, the leaders of Saudi Arabia and those of the United States have met a number of times

at the highest levels to nurture this deep commitment.

King Fahd has played a key role for the past 40 years in solidifying the relationship, first as Minister of Education, then as Minister of the Interior, then as Crown Prince, and since 1982, as King.

Through the years, this

working partnership with the United States has helped make the goal of a developed economy and a better life a

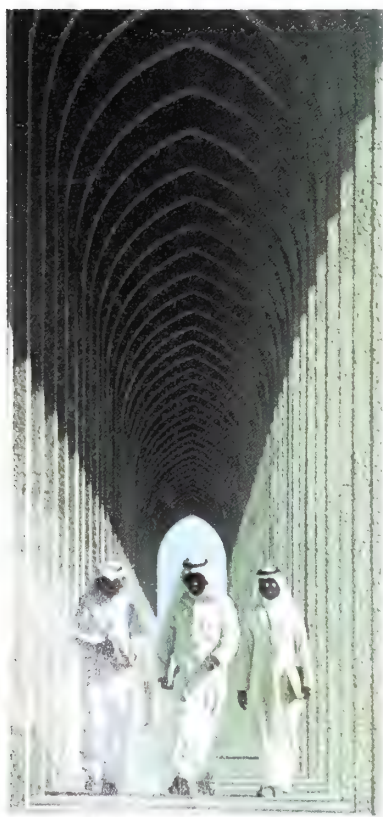
reality. Much of it in partnership with private American companies and individuals.

Entire new cities have been carved out of the

desert. Vast industrial complexes have emerged. The latest transport and communications networks criss-cross the country. Scrub deserts have become fertile



King Fahd previews model of Al Jubayl



King Fahd Ministry of Petroleum and Minerals



Prince Sultan, first Saudi in space, with Discovery crew.

farmlands. Lush wheat fields have sprung up. Desalination projects abound. A massive solar energy program designed to provide energy for the years ahead is under way. Hospitals and medical services, educational institutions and

social-service facilities have become exceptional in quality. And available to all at virtually no cost.

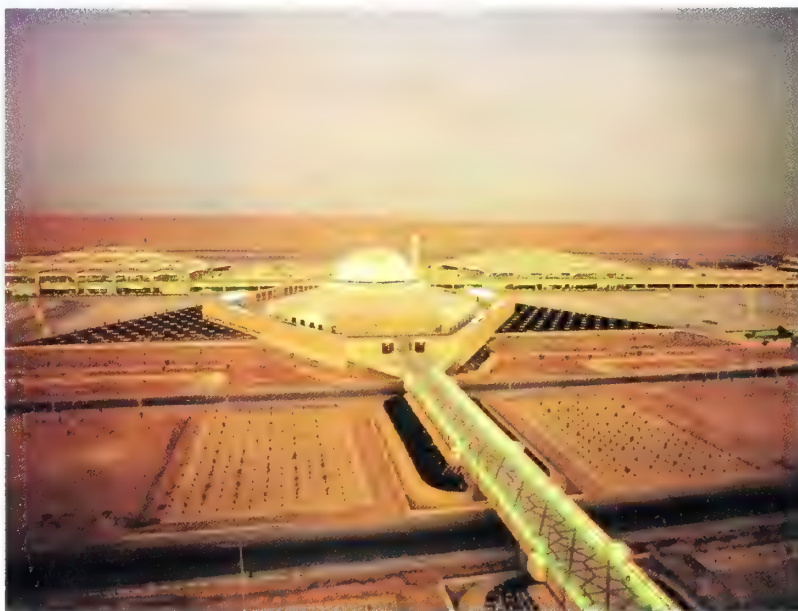
In turn, the United States

has gained handsomely as a prime partner in Saudi Arabia's growth. Billions of dollars in products and services from every state have

trading partner.

Helping the people of both countries to understand each other better has always been a top priority.

Tens of thousands of Saudi Arabians have studied in colleges and universities in the United States. While hundreds of thou-



King Abdul Aziz International Airport, Riyadh.

been purchased by Saudi Arabia. In 40 of the 44 years since World War II, the United States has been Saudi Arabia's number-one

sands of Americans have worked and lived in Saudi Arabia to participate actively in the Kingdom's development.



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Saudi Arabia's concern for the day-to-day welfare of peo-



Saudis using latest computer science

ple is conditioned by two enduring traditions: Our religion. And our commitment to the family.

Islam is the vital force that guides and sustains all Muslims in every aspect of their daily lives.

The religion of

Islam preaches equality and the rights of the individual. It is a religion of peace and tolerance. Our faith in God is a way of life.

For us, the family has always been a close, mutually rein-

forcing entity, as well as basic and central to society.

These moral principles are

a reminder that even while Saudi Arabia has more than 25 percent of the world's



Schoolboys in Al-Ula.

proven oil reserves, our single most important natural resource is our people. They are our hope.

And our future.

Today, Saudi Arabia looks forward to even more fulfilled dreams with the United States.

The Grand Mosque in Makkah during the Hajj



Saudi Arabia and the United States: A Unique Relationship.

ARE INVENTORIES REALLY UNDER CONTROL?

For now. But just-in-time production can't do the job alone

Like a large ship, the U.S. economy takes time to turn around. In past slowdowns, factories kept churning out cars and appliances long after consumers shut their wallets. Piles of unsold goods would grow until they got too high to ignore, and then it was too late: The only way to work off the big inventories was to shut down plants and lay off workers by the thousands.

Now, with the U.S. economy slowing, the critical question is: Will an inventory buildup turn what appears to be a soft landing into a recession? Retail sales fell in May and June, marking the first two-month drop since the stock market crash of 1987. There were declines in almost every retail sector, with autos leading the way.

MAKING STOCK. Up to now, most manufacturers have been effective in matching production to sales and keeping inventories—finished goods, work-in-progress, and materials and supplies—under control. The key indicator, the inventory-to-sales ratio, has been trending downward since the 1982 recession (chart). "Businesses are not going to get caught with excess inventories," says Rosanne M. Cahn of First Boston Co.

But many are skeptical that this performance can continue.

"Has business learned how to escape recessions by using computers to control inventory levels? I wish it were so," says Paul H. O'Neill, chairman of Aluminum Co. of America. Sophisticated new controls are not going to eliminate buildups, he says, because inevitably "hope triumphs over experience." Robert G. Dederick, chief economist at Northern Trust Co. in Chicago, agrees: "Today's needed stocks are tomorrow's excesses."

The auto industry exemplifies the perils of complacency. In 1988, unexpectedly strong sales helped the auto companies hold their inventories down. But so far this year, carmakers have been unwilling to ease off production even though sales have been running 7.2% behind 1988's pace. So by midyear, new-car inventories at the Big Three were about 25% higher than last year. And the Japanese carmakers operating in the U.S., pushing hard to gain market share, aren't in much better shape.

One reason for the buildup: fear of being caught short if demand suddenly rebounds. And no auto maker wants to be the first to trim output. Indeed, General Motors Co. stepped up production of some cars this year to regain market share. Only now are U.S. auto makers cutting overtime and extending their

normal summer shutdowns for retooling by a week or even more just to get output back to realistic levels.

Retailers, too, soon could find themselves the victims of too much optimism. According to the Commerce Dept., the inventory-sales ratio in the retail sector has been on a gradual upswing since 1983. Yet retailers profess not to be worried, reporting that their inventories still are in line with sales.

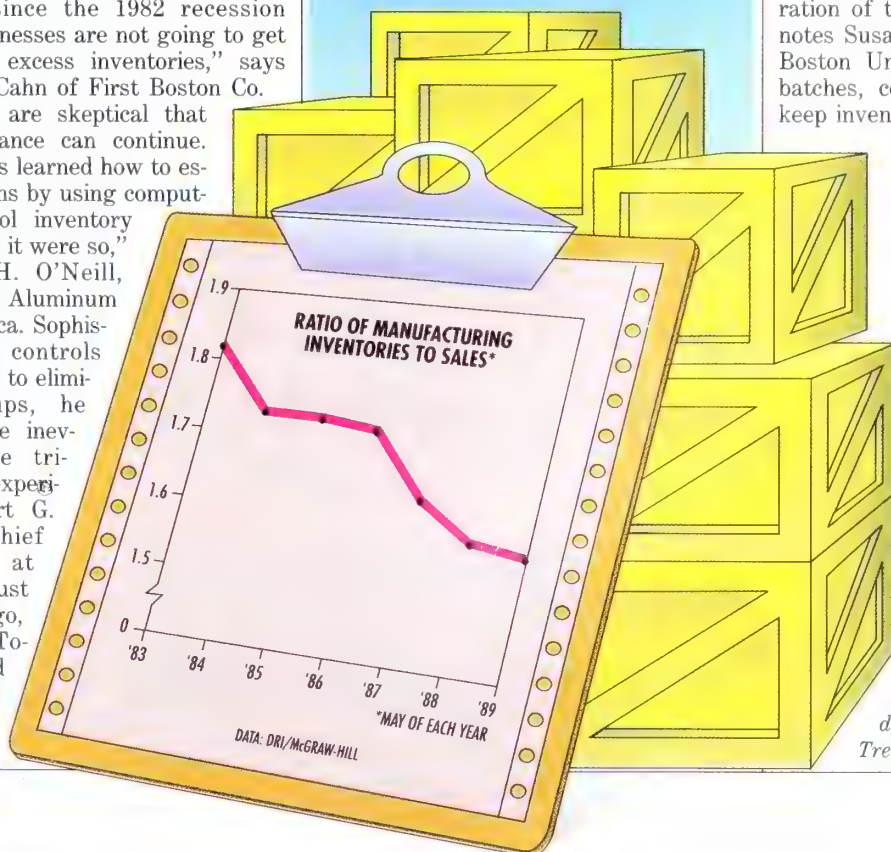
But the increasing importance of imports raises some doubts. When a U.S. retailer orders some shirts from a Hong Kong factory, they are not counted as part of the official U.S. inventory statistics until they arrive in this country. And the length of the supply pipeline means that imports will keep coming off ships and planes even after demand slows down here. In 1982, imports stayed strong for months after the recession started. Today, goods may take four to six weeks to arrive from Japan and eight to nine weeks from Thailand. If sales continue to weaken, retailers could find themselves awash in a sea of foreign goods with no buyers. Retailers might then sharply cut back on orders from U.S. suppliers.

SMALLER BATCHES. So far, most industries aren't bulging with inventories. One key reason is the greater flexibility offered by just-in-time systems, which allow manufacturers to match production with orders more closely. For example, in the past five years, auto-parts suppliers have reduced the average duration of their production runs by 45%, notes Susan R. Helper, an economist at Boston University. By making smaller batches, companies have been able to keep inventories down. But the same innovations that help reduce inventories may create new problems. Shorter production runs and leaner stocks mean that manufacturers need a smooth flow of orders. Therefore, production schedules need to be more stable than in the past.

Inventories can be easily fine-tuned when the economy grows at a predictable pace. But today, when no one knows just how abruptly demand may shift, the low inventory-sales ratio may give producers—and economists—a false sense of security.

By Michael J. Mandel in New York, with Michael Schroeder in Pittsburgh and James B. Treece in Detroit

INVENTORIES LOOK LOW



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GOODWILL IS MAKING A LOT OF PEOPLE ANGRY

Write-offs of intangible assets are giving service companies a big pain in the earnings

When Philip Morris Cos. gobbled up Kraft Inc. for \$12.9 billion last year, it acquired a jumble of prizes that are household names to nearly every shopper in America: Velveeta cheese and Chiffon margarine, to mention just a few. Wall Street was applauded vigorously, sending Philip Morris stock up more than 50%. But according to accountants, Philip Morris was taken to the cleaners. The fair value of the Kraft assets, say the bean counters, was only \$1.3 billion. The difference, a staggering \$11.6 billion, or 90% of the purchase price, is a wispy, intangible asset known as goodwill.

There are scores of issues on which investors and accountants part company, but few are as contentious—or important—as the treatment of goodwill. And in an era of megadeals, the balance sheets of U.S. companies are piling it up at a torrid pace. Because of the Kraft deal, Philip Morris' goodwill climbed to \$15 billion from \$4 billion. That's nearly triple its net worth (table). And for many other companies, especially those in consumer products and media, goodwill is becoming an ever larger piece of the balance sheet. At Gannett, Dow Jones, and PepsiCo, goodwill and other intangibles make up more than 80% of net worth.

'SLIPPERY CONCEPT.' All that goodwill is bad news for reported earnings. U.S. corporations must "amortize" or write it off—without the benefit of a tax deduction. That puts American companies at a disadvantage when bidding against foreign buyers for acquisitions. In Britain, companies don't amortize goodwill at the expense of earnings. In Japan, West Germany, and Canada, they do, but the write-off is cushioned by tax breaks. "If there's a more slippery concept [in accounting,] I don't know of it," says Robert Villens, an accounting analyst at Bearson Lehman Hutton Inc.

No one's advocating doing

away with goodwill entirely. Indeed, it's a "plug" number that makes a balance sheet balance. When one company buys another, the fair value of the physical assets go into the inventory or plant, property, and equipment accounts. The remainder is called goodwill, also known as "going concern value," and is classi-

fied as an intangible asset. In that light, it makes sense. Kraft spent decades building up its food products, and consumer loyalty to the Kraft label is a valuable asset.

But will the value of the Kraft name decline to zero in 40 years? That's how Philip Morris has to treat it, deducting \$290 million a year from earnings—about \$1.25 a share. While assets such as machines deteriorate visibly, it's not so easy to pinpoint when an intangible is losing value. The write-off is "ludicrous," says Hans G. Storr, Philip Morris' chief financial officer. "It's camouflaging real income."

The goodwill rules also have a vastly different impact on different industries. In capital-intensive businesses, the bulk of the purchase price can be attributed to physical assets. Goodwill is not a major factor, and the write-off does not chew up earnings.

But in consumer products and media, the bulk of the purchase price is goodwill. If Time Inc. succeeds in buying Warner Communications Inc., nearly \$11 billion of its \$14 billion bid will result in goodwill. The write-off—and it could be more than \$300 million annually—will throw Time's reported earnings into the red for several years, even though it takes no cash out of the till. "We have an accounting system that works fine for bricks and mortar," says Lee Seidler, senior managing director at Bear, Stearns & Co. "But it penalizes service companies."

Companies didn't always have to write down their goodwill. Prior to 1970, goodwill was carried at cost and cut only when there was evidence that the asset's value was diminishing. That's essentially what some would like to see today. "If you take care of it, the asset lasts indefinitely," says Roman L. Weil, professor of accounting at the University of Chicago Graduate School of Business. "But bad manage-

HOW GOODWILL WEIGHS ON THE BALANCE SHEETS

When one company buys another, the difference between the purchase price and the fair value of the physical assets is goodwill. Most companies put it under the heading of intangible assets

Company	Intangible assets	
	Millions of dollars	Percentage of net worth
VIACOM	\$2,468	721%
FRUIT OF THE LOOM	908	352
TELE-COMMUNICATIONS	3,143	261
PHILIP MORRIS	15,071	196
COCA-COLA ENTERPRISES	2,935	188
BAXTER INTERNATIONAL	2,705	87
GANNETT	1,526	85
DOW JONES	964	83
PEPSICO	2,582	82
SHEARSON LEHMAN HUTTON	1,758	76
CAPITAL CITIES/ABC	2,217	73
EASTMAN KODAK	4,610	68
MCGRAW-HILL	507	55
GENERAL ELECTRIC	8,552	46
WASTE MANAGEMENT	838	38
CHRYSLER	2,688	35
AMERICAN HOME PRODUCTS	643	22
XEROX	1,089	20
GENERAL MOTORS	5,392	15
IBM	717	2

DATA: STANDARD & POOR'S COMPUSTAT SERVICES INC.

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ment can destroy it quickly, too." Accountants made the write-off of goodwill mandatory because some managers were loath to recognize that the value of intangibles, such as brand names, had eroded. "The goodwill write-off is only a compromise," says Arthur R. Wyatt, a partner at Arthur Andersen & Co. "But no one's yet come up with a better solution."

UNFAIR ADVANTAGE. U.S. companies can also be hurt by the goodwill write-off in international deals. Seidler, among others, thinks that goodwill helped two British advertising giants, Saatchi & Saatchi PLC and WPP Group PLC, swallow up U.S. advertising agencies. As service businesses, nearly all the purchase price of the companies wound up as goodwill. The British don't have to charge it off before reporting earnings on their profit-and-loss statement. Instead, they turn directly to the balance sheet and deduct the goodwill from retained earnings. That can make a company look precariously leveraged. To remedy that problem, a few aggressive British companies have begun to shore up their balance sheets by creating an entry called intangible assets, just as it's called in the U.S. But they don't have to amortize it. The bottom line: Since the accounting for acquisitions doesn't penalize earnings, the British can outbid the U.S.

That advantage is under fire in Britain. The British Accounting Standards Committee is weighing a proposed move to a U.S.-style treatment of goodwill. That would coincide with a proposal from the International Accounting Standards Committee, which has proposed a goodwill rule that would write off the asset over five years, though the period could be extended to as much as 20 years if the company could justify it. If adopted in the U.S., that standard would be even more punishing on reported profits.

Of course, some dealmakers say that goodwill's distortion of profits doesn't matter much, because the smart money knows what's going on anyway. "We've never backed off an acquisition because of the goodwill," says Douglas H. McCorkindale, chief financial officer of Gannett Co., the media giant.

Still, McCorkindale says it has taken a long time for Wall Street to realize that goodwill "is an accounting charge without any substance." That could be true for Gannett, Philip Morris, and a few others. But if scores of companies started reporting big losses just because of goodwill, shareholders would surely start screaming.

By Jeffrey M. Laderman, with Leah J. Nathans in New York, Mark Maremont in London, and Ted Holden in Tokyo

COMMODITIES



FERRUZZI'S GARDINI CLAIMS THE BOARD COST THE ITALIAN GRAIN GIANT ITS GOOD NAME

WHY THE PITS ARE SICK OVER SOYBEANS

The Chicago Board of Trade's directive sent prices tumbling

As a rule, traders in agricultural commodities at the Chicago Board of Trade deal in a single product—paper. When futures contracts expire, they are usually in the hands of food processors or farmers, who then accept or deliver the commodities at two warehouses—one in Chicago and one in Toledo. It's an utterly uncontroversial system—unless, of course, someone tries to corner the market by buying contracts for more bushels than there are in the warehouses.

That's what allegedly occurred when Italian agribusiness giant Ferruzzi Finanziaria supposedly tried to corner the soybean market by accumulating 4,600 contracts representing 23 million bushels. As a result, the CBOT on July 11 ordered all traders to cut their positions to no more than 1 million bushels of soybeans—a directive that caused soybean prices to tumble (chart). And there may be a repetition of this fiasco. The CBOT won't change its delivery system, which critics blame for the tumble.

Board of Trade of-

ficials insist they had to intervene to preserve "fair and orderly markets." Indeed, with only 13 million bushels of the hairy legume actually in CBOT-designated warehouses in Chicago and Toledo and Ferruzzi intending to take delivery of its 23-million-bushel trading position, a squeeze was building as the July 2 expiration date approached. Soybean sellers unable to make delivery would rush to cover their "short" positions. Presumably, prices would have jolted upward and then collapsed after expiration, leaving in the wake a slew of insolvent trading companies. There would have been "dramatic long-term implications for the Board of Trade," explains Karsten "Cash" Mahlmann, chairman of

the CBOT. He says Ferruzzi refused to reduce its position despite "jawboning" by the CBOT. "The exchange should not be considered a source of supply and any market participant knows that," says Mahlmann.

Ferruzzi rejects the notion that it was trying to engineer a squeeze on the market. The Milan-based company

THE RISE AND FALL OF BEANS



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The Golden Gate Bridge,
photographed by Alan Ross.

one of the world's biggest grain dealers, is vowing to sue the CBOT. "Everybody now knows that Chicago is finished," says Ferruzzi CEO Raul Gardini. "We've lost Chicago as a market now. After this, who is going to go there and take risks anymore?" Gardini says his damages "are in the billions of dollars. The image of our group has been hit, and that's worth billions." Traders say Ferruzzi's losses may have been as high as \$50 million.

SHAKEN CONFIDENCE. Even if the CBOT isn't "finished," the exchange has certainly shaken the confidence of scores of farmers, grain brokers, and investors who trade there. Traders howled that the CBOT's meddling bailed out short-sellers—including, Gardini charges, his competitor, Cargill Inc. The CBOT denies that it succumbed to outside pressure, and Cargill says it closed its July bean position in mid-June. The company denies pressuring the CBOT.

Despite the CBOT's controversial action, the exchange remains vulnerable to manipulation because of its stringent requirements for delivery of beans. Indeed, the quirks of delivery seem to support the view that Ferruzzi was trying to "squeeze" short-sellers. Shipping sources say Ferruzzi quietly shipped beans out of Chicago and Toledo in June and early July, reducing holdings there so the company could later claim an economic need for delivery on the July contracts. Ferruzzi then held onto its contracts even though beans at the Gulf of Mexico, its major shipping point, were selling at prices below Chicago's. A squeeze would have boosted bean prices, turning Ferruzzi's money-losing position into a winning one. Ferruzzi has no comment on the contention that it shipped beans out of Chicago and Toledo in June and July.

Once it appeared that a corner may have been in the works, the CBOT's only reasonable alternative to forcing traders to reduce their positions was to allow delivery in locations other than Chicago and Toledo. That's a step the exchange has never taken before, but it's one the CBOT could take to prevent another such crisis. More delivery points would make it harder for a potential manipulator to control the futures market. CBOT Chairman Mahlmann says a committee is studying changes in delivery requirements, but he thinks the two-city warehouse system is adequate: "You don't have to have the whole country available" for delivery, he says. That thinking might be easier to accept if the integrity of the marketplace didn't depend on the CBOT being right.

By David Greising in Chicago, with John Rossant in Rome

MARKETS

WILL THE AMEX AND PHILLY TEAM UP AGAINST CHICAGO?

The East Coast exchanges may merge their options trading

When it comes to equities, the American Stock Exchange has always been in the bush leagues, dwarfed by the prestigious New York Stock Exchange. But the nimble Amex has been able to carve out a niche as a major exchange in the fast-growing options market.

Now, the Amex is going for the gold: It's negotiating with the Philadelphia Stock Exchange (PHLX) to combine all options trading under one roof in New

York. The Amex, with a tidy 28% market share, both stand to grab some of the heavily traded options that are listed only on the PHLX and Pacific Stock Exchanges.

The smaller exchanges can also reach for some of the option plums on the bigger exchanges, such as IBM on the CBOE and Digital Equipment Corp. on the Amex. But the PHLX, with only 12% of the equity-option volume, and the Pacific exchange, with 13%, will find much harder to attract option traders from the CBOE and the Amex.

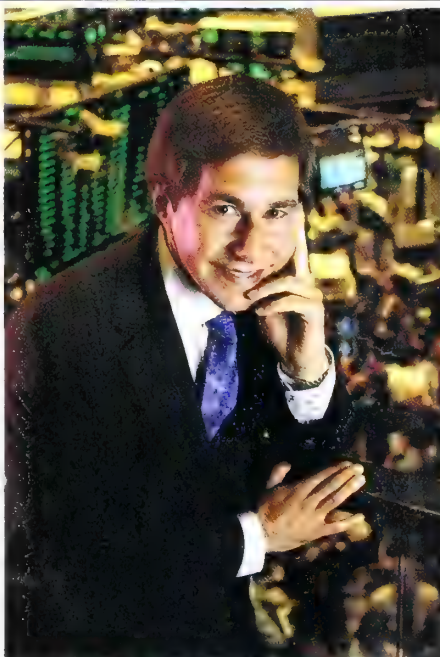
'MAJOR SYNERGIES.' In danger of becoming obsolete, the PHLX is reluctantly entertaining Amex' advances. The benefits are hard to ignore. Merging both exchanges' options business on the Amex floor in New York would mean greater liquidity, a deeper capital base, and more money to invest in automated systems and joint marketing. Says Jeffrey P. Lane, Amex vice-chairman and Shearson Lehman Hutton Inc. president: "There are major synergies between the two exchanges that would give them a significant competitive advantage."

The combination is especially popular with the big brokerages that are both exchanges' largest customers. "It would save money. You don't need as many people on as many floors," says Howard M. Brenner, an Amex governor and a director of Drexel Burnham Lambert Inc. Brenner arranged the first meeting between Leibler and Nicholas A. Giordano, president of the PHLX.

But it's a tough sell both in Philadelphia and New York. Members of the Philadelphia exchange want an even trade of seats. One big problem: A PHLX seat is worth about \$50,000, while an Amex seat goes for \$180,000. "If they can't make it attractive enough, there's not going to be a deal," insists Giordano, who also says he has been approached by two other major exchanges.

If a deal does emerge from the preliminary talks, it must be approved not only by the members of both exchanges but by the SEC. Nonetheless, as one Amex specialist says, in the new world of electronic trading, "consolidation would make so much sense."

By Leah J. Nathans in New York, with Joseph Weber in Philadelphia



THE AMEX' LEIBLER: SPEARHEADING TALKS

York. If the two East Coast exchanges consummate the union, the newer, improved Amex could wrestle with Chicago for leadership in the options market. "It would dramatically enhance our options business," says Kenneth R. Leibler, the 40-year-old Amex president, who has been spearheading the merger talks.

The impetus for consolidation came from a Securities & Exchange Commission attempt to make options trading more competitive. In May, the SEC ruled that beginning in 1990, many options can be traded on more than one exchange. That's great news for both the Chicago Board Options Exchange, which has 44% of the stock-option trading volume, and

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right market was at the right time."

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*Front page of the
May 31, 1989 Wall Street Journal*

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BY GENE G. MARCIAL

WHICH OF LONE STAR'S SUITORS WILL GET THE DANCE?

Lone Star Industries is attracting a crowd. A European company trying to wait out the slump in the cement industry is said to have decided to go ahead with earlier plans to make a bid for the U.S.'s largest cement producer. And a waste-disposal company may be interested in Lone Star, too.

Why all the new attention? Last month, one of America's savviest corporate raiders, Harvey Weinberg, bought a 5% stake. And Hawaii-based Weinberg has a long history of sticking around until he gets what he wants from the companies he buys shares in.

The betting now is that Weinberg will increase his holdings to gain enough clout to push Lone Star into selling several of its underutilized assets, including real estate properties in Hawaii, and subsequently repurchasing shares. Weinberg has amassed a fortune estimated at more than \$1 billion from his aggressive forays in several companies, including Hawaiian Airlines, Amfac, People's Drug Stores, and Alexander & Baldwin.

"He has compiled a phenomenal record of purchasing distressed or underutilized companies, sharply cutting operating costs, and selling at large profits," says one investment strategist. Right now, Lone Star is selling at 31, below its book value of \$39 a share. One takeover pro estimates Lone Star's takeover value to be \$45 a share.

Lone Star may easily be worth that much to a foreign building-products company. U.S. cement makers have been frequent takeover targets of foreign producers, who now control 60% of the U.S. industry.

HOT PROPERTY. More intriguing is the possibility that a waste-disposal company is interested. The kilns in which cement is made generate enormous amounts of heat and are therefore efficient incinerators. They can safely dispose of hazardous wastes—even in liquid form. Lone Star and Lafarge, another major cement producer, have been processing industrial waste at several facilities, which suggests that cement-making may indeed be combined with the business of hazardous-waste disposal. The implications for profits are enormous for a waste-disposal company that also produces ce-

LONE STAR'S STOCK: MARKING TIME



DATA: BRIDGE INFORMATION SYSTEMS INC.

ment. Lone Star accounts for 7% of U.S. capacity and also makes other construction material, including sand, gravel, and ready-mix concrete.

Management owns about 14% of the stock, with Chairman and CEO James Stewart, who has purchased more than 25,000 shares in the past 12 months, owning some 13% of management's stake. A spokesman declined to comment on the takeover rumors.

HONEYWELL MAY STILL BE SWEET

Honeywell's stock took a beating on July 14. It had soared 15 points two weeks ago after this column reported rumors that General Electric was interested in a friendly acquisition of the company. Honeywell shares, up as high as 86, slumped 5 points after GE denied the rumor in response to an inquiry from the New York Stock Exchange.

But some pros still believe that Honeywell is in play. Though GE isn't interested, they see a lot of reasons to buy. In fact, the stock jumped 2 1/4 points on July 18 and an additional 1 1/2 points on July 19. "We think Honeywell is gone," says a New York money manager, "unless it moves quickly to avert a takeover." Management is "under increasing pressure to raise Honeywell's stock closer to its estimated breakup value of about \$146 a share," says an influential New York research firm in a soon-to-be-released report.

Since May, an investor group called North American Partners, led by Richard Rainwater and Eddie Lampert, has increased its stake in Honeywell from

2.65% to nearly 5%, says the research firm. Rainwater's group is "determined to take control" unless demands for moves to boost the stock are satisfied. The group sees the defeat of management's antitakeover proposals in the May annual meeting as an endorsement of its position by shareholders.

Lampert says that Honeywell is a market leader in most of its core businesses, which the stock price fails to reflect. Honeywell is a major producer of automation and control systems for housing, industry, and aerospace. It also makes munitions and defense electronics for the U.S. government.

To fight the Rainwater threat, word is that management will either sell or spin off to shareholders its 50% stake in Yamatake-Honeywell, estimated to be worth \$25 a share based on its current market value on the Tokyo Stock Exchange. Then, the pros say, the company will buy back shares or declare a big special dividend. Honeywell declined to comment.

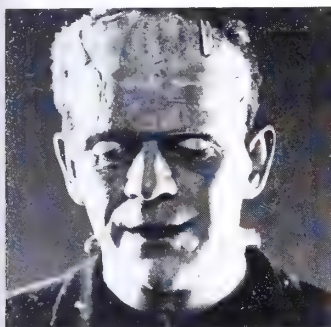
SPINNING GOLD OUT OF SPINOFFS

Always in search of the undiscovered value, investment manager Mario Gabelli has been picking up shares of jettisoned divisions of big companies that are restructuring. "The restructuring that's going on has created stocks that few people know anything about," says the chairman of the Gabelli Group, which includes Gamco Investors and Gabelli Equity Trust.

One stock that Gabelli deems a worthy find is Scotsman Industries, a maker of commercial refrigerators and freezers, ice makers, soft-drink dispensers, and water coolers. It's trading on the New York Stock Exchange at \$13 a share after being spun off on Apr. 17 by Household International. "Scotsman is worth as much as \$20 a share," says Gabelli, who has accumulated a 10% stake, making him the company's largest shareholder.

Another unit that Household spun off along with Scotsman is Eljer Industries, which Gabelli is also buying. Eljer, a maker of building products, has already been discovered: Nortek, another building-products company, has made an unwelcome \$32.50-a-share bid. Nortek now owns 8% of Eljer's stock, which traded at 28 before the offer. Gabelli says the move validates his belief that spinoffs are undervalued. He won't be surprised if Scotsman attracts a bid, too.

SOME NAMES JUST COMMUNICATE BETTER THAN OTHERS.



*Boris Karloff was
William Henry Pratt*



*Judy Garland was
Frances Gumm*



*W.C. Fields was
William Claude Dukenfield*



*Chubby Checker was
Ernest Evans*

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 HARRIS

PEOPLE AREN'T LAUGHING AT U.S. SPRINT ANYMORE

The No. 3 long-distance carrier is taking business from AT&T and challenging MCI

William T. Esrey found the invitation irresistible. In early 1987, the late James E. Olson, then chairman of AT&T, asked Esrey, whose United Telecommunications Inc. owned rival long-distance carrier U.S. Sprint Communications Co., to play in the AT&T Pebble Beach National Pro-Am golf tournament. For the first two days, Esrey played so poorly that he almost didn't make it to the weekend round. But on Saturday, before 50,000 fans, he shot four birdies to lead the field with partner Tom Watson.

It was one of those moments that become the stuff of legend. U.S. Sprint was a poor competitor to AT&T then, its costs out of control and its market share lagging. But today, it is on the verge of a miraculous recovery. With just 8% of the market, Sprint is still third in the \$50 billion-a-year long-distance business, behind American Telephone & Telegraph Co. and MCI Communications Corp. But Esrey has turned Sprint's losses into profits. And he has mounted an aggressive marketing campaign that, he says, leaves "no doubt that Sprint will grow faster than AT&T and MCI"—and, some Sprint executives maintain, eventually overtake MCI.

Eventually may be a long way off, considering AT&T's 68% of the market and MCI's determination to increase its 12% share and stay ahead. Even so, Sprint and its parent have turned the competition in long distance hotter than the barbecue in their hometown of Kansas City, Mo. And Esrey isn't stopping at long distance. United Telecom, with annual revenues of \$6.5 billion, also has 3% of the U.S. local phone business, the only major carrier with both services now that AT&T has been broken up. "We are sort of a poor man's AT&T, pre-divestiture," says Chairman Paul H.

MAKING IT HAPPEN. Once United's local phone companies are outfitted with the same high-performance fiber-optic lines used by Sprint, the slow-growth local business can be transformed into a purveyor of everything from voice communications to information services and cable TV—theoretically with double-digit

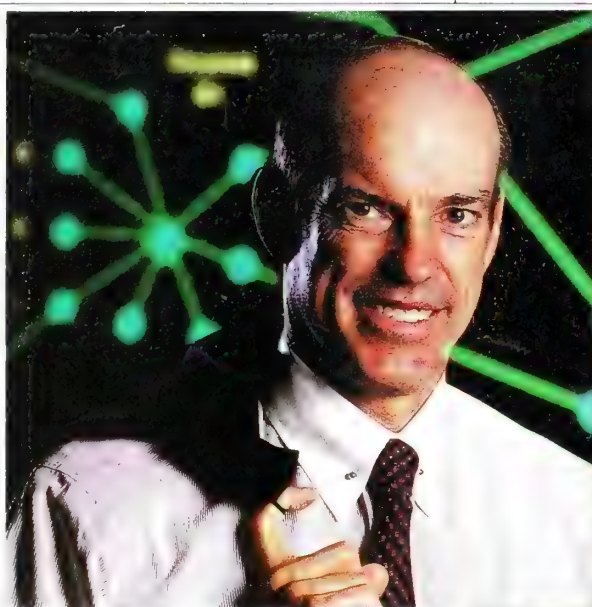
annual growth (page 86). Esrey is planning to spend more than \$3 billion on equipment over the next five years to make it happen. "Our aim is to rise above the competition," says Esrey, "to become the best telecommunications company in the world."

A year ago, such talk would have sounded ludicrous. Though United and its partner at the time, GTE Corp., had

plus a 40% chunk of a 10-year contract to rebuild Uncle Sam's phone system, project the government says could total \$25 billion. On July 18, Sprint reported first-half operating profits of \$75.6 million vs. a \$222.7 million loss a year earlier, and a 30% gain in revenues, to just over \$2 billion. In the past year, United stock has soared more than 100%, outpacing nearly all of BUSINESS WEEK

Top 1000, a listing of the most valuable companies in the U.S.

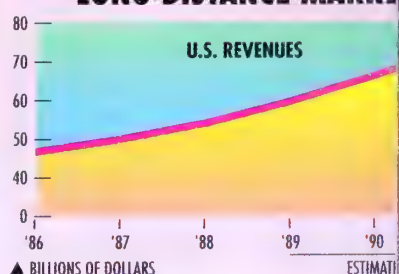
All that has galvanized



spent some \$5 billion in investments and write-offs, Sprint had produced a total of \$1.8 billion in losses since mid-1986. Having had enough, GTE agreed to sell all but 20% of its stake in Sprint to United. Many felt GTE was getting out just in time. "People were wondering if we would survive," recalls Senior Vice-President John R. Hoffman.

Today, however, "Sprint has gone from a laughing stock to a force to be reckoned with," says PaineWebber Inc. analyst Jack B. Grubman. Sprint's efficient fiber-optic network puts it on the cutting edge as a communications carrier. And because customers use Sprint as leverage against its bigger rivals, it has won some of the most important battles in this year's long-distance wars—including most of Sears, Roebuck & Co.'s estimated \$125 million in annual business,

THE HEALTHY LONG-DISTANCE MARKET



the competition. AT&T, once about as active "as a hibernating bear," says David Forman, Sprint's national accounts manager, "has come storming out of the cave." Last year, it wrote down \$6.7 billion in aging equipment. And it is spending \$6 billion to modernize its network over the next two years. Without Sprint on its heels, AT&T might have stretched out those expenditures. By August, it will have boosted its national sales force by 5,500 people, equal to nearly 40% of Sprint's entire work force. And, says Joseph P. Nacchio, director of AT&T's business sales: "I'll get more if I need them." He adds: "People are going to have to earn the business they take from us. They're not going to get it by default."

Suddenly, the customer is king, particularly big corporations. "I look forward to renegotiating the deal I did with AT&T" in April, 1988, says Si Gilman, executive director for information systems at Ford Motor Co., which has given most 90% of its \$40 million annual long-distance business to AT&T. "I'm sure I'll get a better deal next time, and may not be with AT&T."

For AT&T, MCI, and Sprint, a price war is the obvious danger. "Unquestionably, it could happen," concedes Esrey, though the effects certainly would be cushioned by the projected 10% to 12% annual growth in business phone usage over the next several years.

Sprint's challenge is to undercut AT&T enough—its prices are now about 10% less—to keep stealing business but not so much as to cause retaliation that could wipe out margins and push it into the red.

That's the sort of high-wire act that Sprint's leader has always relished. Long a regular at Vail, Colo., Esrey, 49, decided last winter that skiing America's biggest slope was too tame. So he took to the more dangerous sport of having a helicopter drop him—skis and all—onto the virgin slopes of the more challenging Canadian Rockies.

Esrey has been on a fast track since he received an MBA from Harvard University in 1964 and went to work at AT&T, where his father, Todd, once ran its Western U.S. long-distance operations. At 29, Bill made it to the presidency of New York Telephone's construc-

tion unit, staying until 1970 when Nicholas F. Brady, now Treasury Secretary, beckoned him to join the investment banking firm of Dillon, Read & Co. By 1980, he had "made more money than I should have" and joined Henson's United as chief of corporate planning.

Henson had been looking to recast United's business. He and Esrey found long distance intriguing, although consultants and other United executives didn't. "We knew the risks were substantial," recalls Esrey, but with the market being opened to all comers, "you seldom have opportunities like this." Henson put Esrey in charge of the business, called U.S. Telecom, in 1982 and two years later made him CEO at United when Henson fell ill with liver cancer.

APOPLECTIC. Soon it became clear, however, that U.S. Telecom couldn't make it alone. It had less than 1% of the market. And its plans to install state-of-the-art fiber-optic equipment throughout its 23,000-mile nationwide network would cost at least \$3 billion. The much larger GTE Sprint faced similar investment hurdles, so the two agreed to combine their operations into U.S. Sprint.

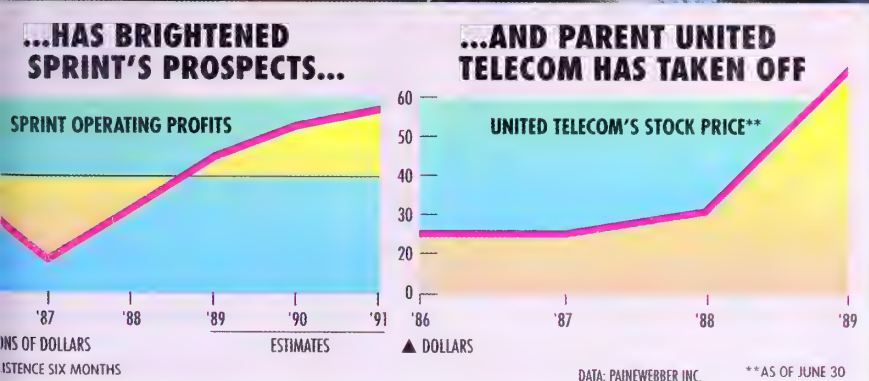
At first it looked as if nothing could stop the young challenger and its aggressive marketing team. Charles M. Skibo, Sprint's first president, doubled the customer base to 5 million in one year, using ads promoting quality "so clear you can hear a pin drop."

But big problems lurked beneath the surface. The partners could never quite agree on how to properly combine their incompatible long-distance networks and billing systems. As a result, Sprint's transmission quality lagged behind that of its rivals, and many customers weren't getting billed for calls, causing huge losses.

With Sprint hemorrhaging and Skibo unable to improve Sprint's operations, GTE became apoplectic. Within a year, it wanted out of Sprint, even though Skibo's replacement, Robert H. Snedaker, had done a lot to get the billing operations back on track. Declares GTE Chairman James L. "Rocky" Johnson: "It was impossible to manage Sprint effectively in the context of a 50-50 joint venture."

While Johnson says GTE bailed out of Sprint at "a fair price," Wall Street isn't so sure. Johnson cut bait just as Sprint was turning around, and several analysts think the \$585 million he got from United for GTE's 30.1% stake was inadequate in light of Sprint's improvement. GTE's payoff "would have been fair only if Sprint had been a reseller, with customers but no network at all," says Morgan Stanley & Co. analyst Edward Greenberg. Instead, "GTE valued Sprint's state-of-the-art network at zero."

With GTE out of the picture, Esrey has more leeway to be aggressive. "The psy-



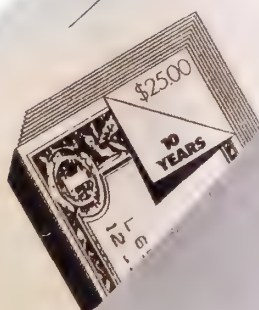
Anyone can have a great idea. Make sure everyone else thinks it's a great idea.



The difference between an idea and an idea that sells can be a Macintosh IIcx computer, an Apple Scanner and a LaserWriter printer.

RETURN ON INVESTMENT

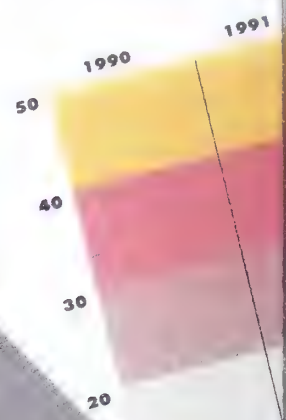
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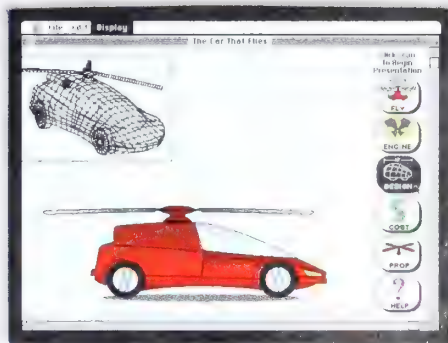
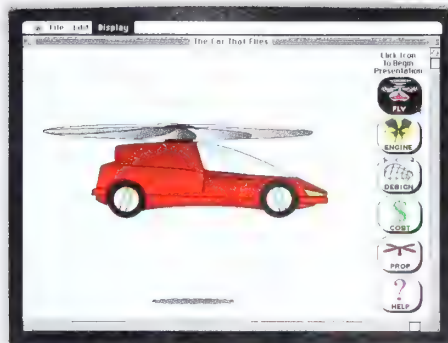
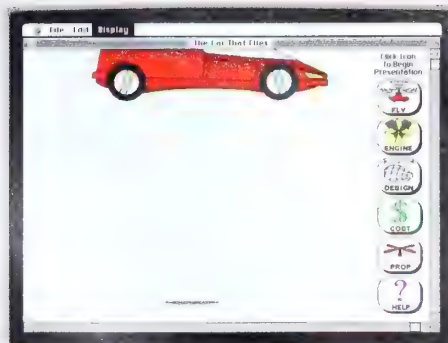
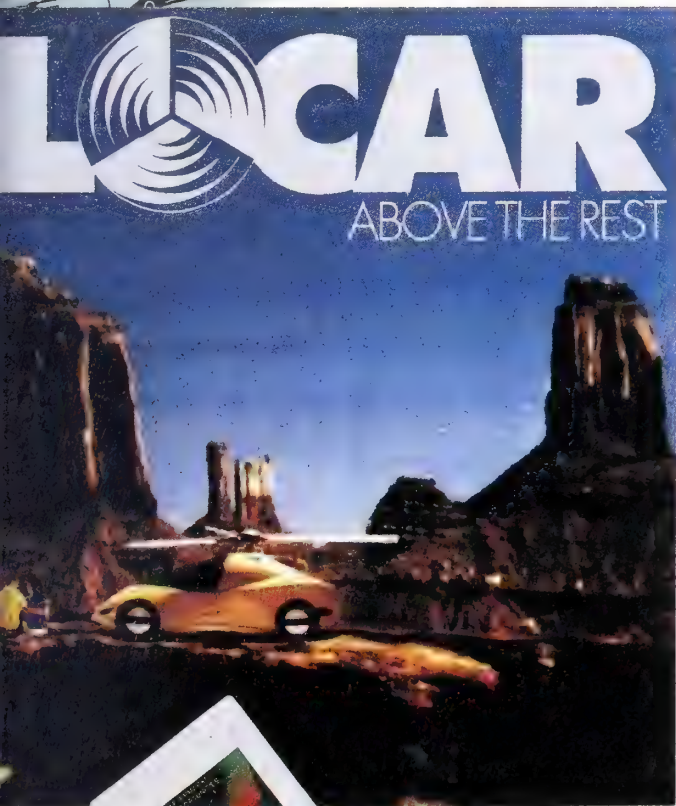
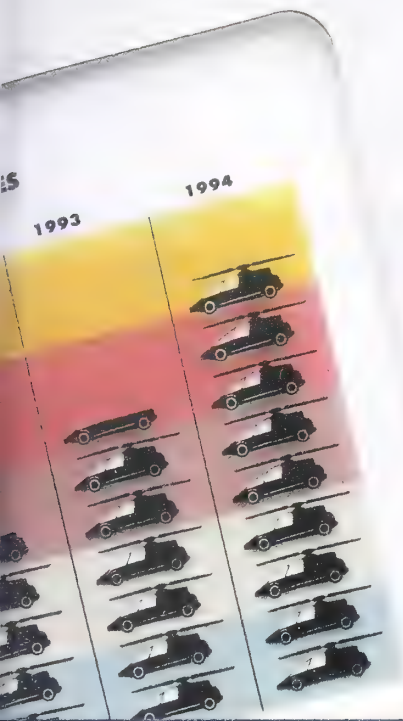
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Prepared by Ben

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chology in the marketplace has changed dramatically," he says. "It used to be a gutsy move to shift away from AT&T. Now, people wonder if you don't have multiple vendors." This shift also aids MCI, while "AT&T will lose more share, even if it fights as hard as it can," says Ford's Gilman. Indeed, Donaldson, Lufkin & Jenrette Securities Corp. analyst Joel D. Gross predicts that MCI and Sprint will grow at nearly 30% a year over the next two years—about five times as fast as AT&T. And PaineWebber's Grubman believes that "in five years, there will be virtually no difference between MCI and Sprint in size."

Not if MCI has anything to say about it. "It isn't going to happen," vows Kevin W. Sharer, MCI's senior vice-president for sales. Indeed, \$6 billion MCI is now almost 50% bigger than Sprint—and red hot. In the second quarter, ended June 30, MCI posted a 129% increase in net income, to \$150 million, on a 31% rise in sales, to \$1.6 billion. Meanwhile, AT&T is wooing Corporate America with a discount plan called Tariff 12 that has attracted such heavy-volume customers as General Electric Co. and American Express Co.

Wins such as these have Esrey working furiously to introduce new products. On deck are systems that will automate "800" calls to the point that companies such as Sears could cut their phone operator staffs in half. Another new development is a voice card to allow a caller to speak into a phone and have a Sprint computer recognize the voice and automatically bill the call. Fifty more products are planned for 1990. To improve customer service, Esrey plans to build a "university of excellence" to educate all Sprint employees. Declares Lawrence L. Lake, Sprint's senior vice-president for product management: "We're going to lead the market."

NEXT QUEST. To do that, though, Sprint will also have to increase its share of the \$6 billion international market, where it is dwarfed by AT&T and MCI. Esrey aims to double Sprint's 5% share by 1991. A recent deal to market global services with Cable & Wireless PLC should help him do it. So should the 50% stake that Sprint bought in c&w's new \$450 million transatlantic fiber-optic cable.

Barring a price war, Sprint's success seems all but assured (charts, page 83). If so, United's stock "is still cheap," says Morgan Stanley's Greenberg. "It's worth \$100 a share."

With the outlook for Sprint improved, Esrey plans to focus more on United's next quest: transforming its local phone business. He'll tap a new chief for Sprint so he can take over as United's chairman when Henson, who has recov-

ered from his cancer, retires next year.

By the mid-1990s, Esrey expects regulators to allow phone companies into businesses such as cable television and electronic publishing. And he'll get ready for this by installing fiber-optic cable in homes. The goal is to pump not only phone calls and cable TV to his customers but also voice mail and home security systems—thus doubling the 5%

growth rate of United's \$2.5 billion local phone business.

Esrey is the first to concede that a his plans may not go smoothly. But then they hardly ever do. That's where you can use a CEO who can shoot a few birdies.

By William C. Symonds in Kansas City with John J. Keller in New York, Tim Smart in Washington, and bureau reports

FIBER OPTICS: GETTING CHEAP ENOUGH TO START REWIRING AMERICA

It could mean no more trips to the video rental store. Thanks to fiber optics, by the mid-1990s consumers may be able to have movies sent over the phone by punching a button—without leaving their La-Z Boys. After a decade of rewiring to improve long-distance phone service, the cost of optical fiber has dropped to within hailing distance of copper wire. Now, local phone companies plan to run fiber cable to American homes and deliver a wide array of new services.

Each of the hair-thin strands of glass handles 16,000 phone calls at once, vs. 24 for copper wire. So fiber can transmit conversations and gobs of data—high-definition TV signals, for example—simultaneously.

Filling fiber-optic pipelines should mean more traffic and profits for phone companies—but not overnight. Because of labor costs and complex electronics, the price of fiber-optic cabling still runs about \$3,000 per new house—twice the price of copper. The Baby Bells, which account for some 75% of the local phone business in the U.S., also complain that regulatory hurdles reduce their incentive to install fiber. They are now largely restricted from creating or owning the information that will spill through the cables.

GLASS HOUSES. Still, Bell Atlantic, U.S. West, Southwestern Bell, BellSouth, and Contel have fiber connections to homes in 16 communities. Bell Atlantic and BellSouth have won special approval from the Federal Communications Commission to carry cable TV. In Cerritos, Calif., GTE Corp. will begin transmitting voice, video, and data over fiber to 600 houses within a year. By 1999, 17 million U.S. houses and

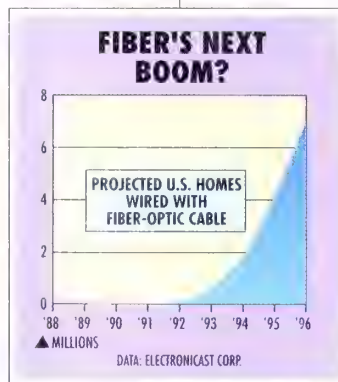
small businesses—about 15% of the total—will use fiber, predicts market researcher ElectroniCast.

Makers of fiber-optics gear expect a boom. The first fiber wave, which began 13 years ago, started slowing in 1986 as phone companies completed backbone networks. Now, the action is shifting to links between phone companies and customers. Replacing those lines, which account for half of all phone wires, should triple American fiber-optics sales, to \$2.9 billion, by 1992, says KMI Corp., a Newport (R. I.) market researcher.

Siecor Corp., a leading supplier of fiber-optic cable, says that could mean a doubling of annual sales during the 1990s, vs. 10% gains now. Next year, AT&T Network Systems plans to build 100,000 terminals—transmitters that send signals over fiber to homes. That's 10 times this year's target. By 1991, AT&T will be making nearly 500,000 terminals a year, says William O. Robinson, director of product and market management for transmission systems. BellSouth alone is seeking 100,000 data terminals over the next four years.

As prices fall, fiber's momentum will build. Siecor President Joseph D. Hicks expects new splicing techniques to halve installation costs, to \$25 an hour, by 1991. And cheaper microchips for converting electric signals into pulses of light are already in development. By 1992, analysts predict, it will be just as cheap to wire new homes or businesses with fiber as with copper. And then, U.S. homes can phone for sound, HDTV, data, and just about anything else phone companies can dream up.

By Lois Therrien in Chicago



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THE NEXT GIANT LEAP FOR MANKIND MAY BE SAVING PLANET EARTH

NASA's 'largest scientific mission ever' would give pollution fighters a crucial global view

The images of that July day in 1969 are etched into our consciousness. A frail spacecraft touches down on the moon's dusty Sea of Tranquility. Neil A. Armstrong, taking a "giant leap for mankind" on that barren landscape, leaves behind a boot print for all time on the lunar surface.

Yet the most powerful image of Apollo 11's voyage may have been the view homeward. From 240,000 miles away, the planet that seems so immense to the earthbound is a small blue and white globe in the vast reaches of black space. Even the Apollo 11 astronauts, brimming with the right stuff, were humbled by the sight. It made astronaut Michael Collins realize that "there is but one earth, tiny and fragile."

Like the footprint, the legacy of that sight has endured. The image of "space-

ship earth" made palpable the notion that our world is a vulnerable planet in which many forms of life, especially a species capable of flying to the moon, are mutually dependent. Not coincidentally, Earth Day, less than a year later, on Apr. 20, 1970, inspired the largest outpouring of environmental concern ever and set the stage for the activism of the 1970s.

FIRST GLIMPSES. More important, the same space program that sent men to the moon launched a series of satellites that provided the first real glimpses of now-pressing environmental issues. Data from the Nimbus-7 satellite gave scientists a record of the growing hole in the protective ozone layer over the Antarctic. And spacecraft have documented massive deforestation and other changes that may contribute to the greenhouse

effect. "Space exploration," says former NASA Administrator James C. Fletcher, "spawned a revolution in humanity's perception and understanding of earth."

Since Apollo, many space scientists who were studying such things as the moons of Jupiter have focused instead on the earth's atmosphere, ocean currents, and vegetation. Their discoveries have led to the inescapable conclusion that man's activities, from using industrial chemicals to burning fossil fuels, are altering the environment. But deciphering the intermeshing of the systems that make earth habitable is such a complex task that many questions remain unanswered.

That's partly because earth observation from space has always played second fiddle to more glamorous missions of exploration. For example, scientists

LOOKING HOMEWARD

1978

Seasat reveals patterns of ocean circulation

1980

Nimbus-7 records a hole in ozone layer over Antarctica

1981

Radar flown in the space shuttle spots ancient riverbeds beneath the sands of the Sahara



ve measured the isotopes of carbon in methane—information that is key to determining how the gas may affect climate—far better on planets other than Earth. “When it comes time to write the story books of the next century, one question will be why we took so long to look into the mirror,” says astrophysicist John A. Eddy of the University Corporation for Atmospheric Research in Boulder, Colo.

But now, many researchers, such as Mustafa T. Chahine, chief scientist at NASA’s Jet Propulsion Laboratory (JPL) in Pasadena, Calif., are focusing closer to home. “Subliminally,” says Chahine, those of us who were looking outward at other planets were always searching for some social and economic relevance to our work.”

So scientists are now racing to launch what Eddy calls the “biggest project to come along in all science.” Dubbed Mission to Planet Earth, its rationale is simple. “Think of the earth as a patient,” says Chahine. “It has a fever—it’s getting warmer. So you put it under intense observation.”

There’s no shortage of work. The human species has inadvertently touched off a global experiment. Even after a decade of data from space, the information available is still woefully inadequate. “We have already started the experiment,” says oceanographer Wayne Roegner at NASA’s Goddard Space Flight

Center, “but we don’t know what the initial conditions were or how the earth will change.”

Many current space-based instruments aren’t precise or well-calibrated enough to reliably spot subtle trends in such crucial patterns as ocean productivity or ice cover. More important, even to chart the trends, much less figure out what they mean, scientists need to make dozens of new measurements—from dust levels over China to soil moisture in Central Africa to the rate of deforestation in the Amazon basin.

MANHATTAN PROJECT. Just to get an idea of what’s needed, more than a hundred scientists will gather in Manhattan, Kan., on July 23 to wrest every possible secret from a small plot of tall-grass prairie. The goal: to figure out how to monitor vegetation from space. Other researchers are measuring methane emissions from termite mounds, charting cloud patterns, and negotiating with foreign governments to set up long-term environmental monitoring stations at 10 key sites around the world, from Canada to Africa, the Soviet Union, and China.

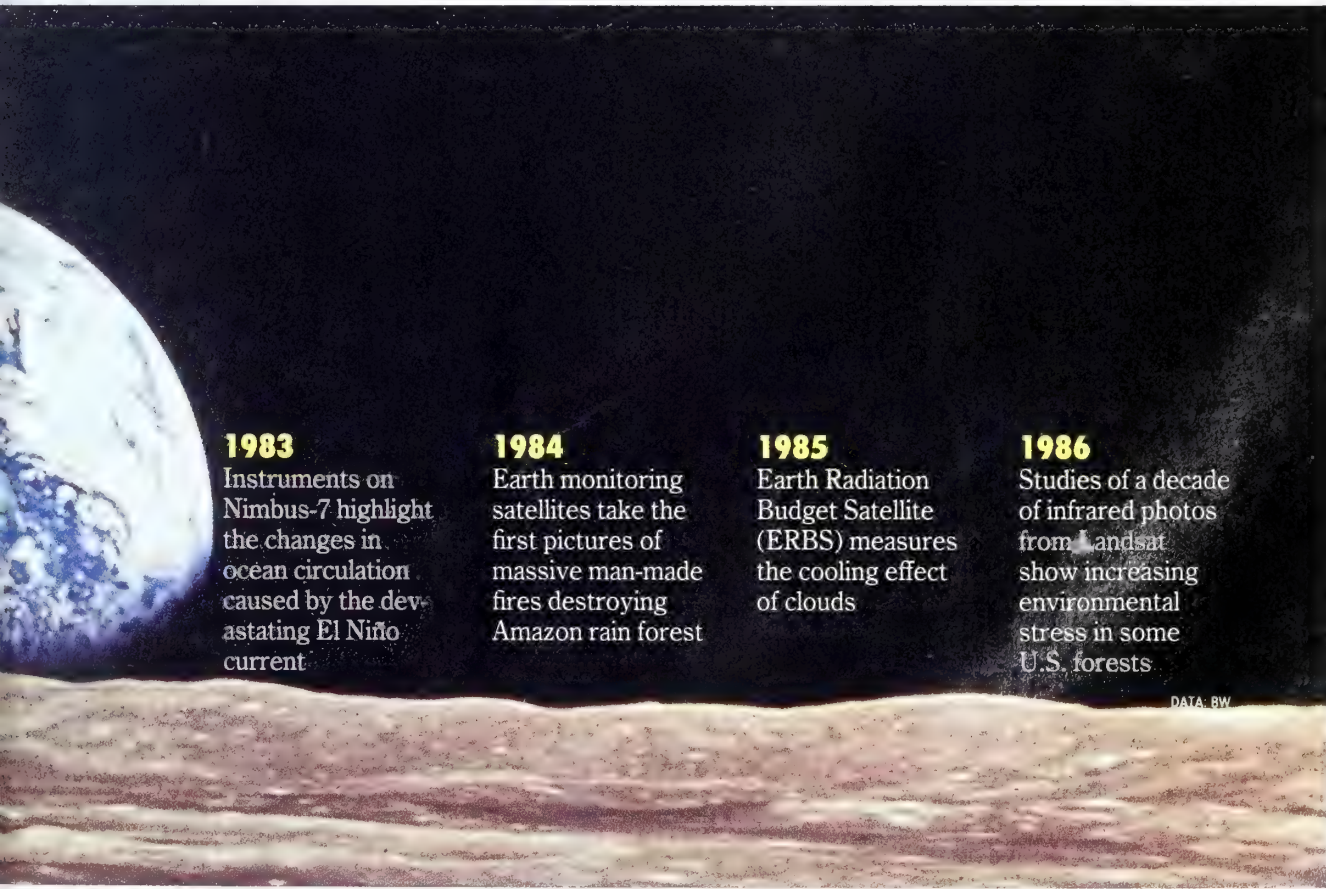
The most ambitious of such projects at NASA is called the Earth Observing System (EOS), a series of as many as six orbiting platforms scheduled for launch beginning in 1996. The platforms will bristle with sophisticated lasers, spectrometers, radar, and other sensors to measure everything from the thickness

of glaciers in Greenland to the crests of ocean waves in a tropical cyclone. “Without a doubt, it’s the largest scientific mission ever in this agency,” says Shelby G. Tilford, director of NASA’s Earth Science & Applications Div.

The catch is that this project is now little more than a small mountain of reports waiting for funding. Many scientists worry that the initiative won’t get off the ground soon enough or last long enough to collect the information they need. “We start and stop these things so much that nothing ever gets done,” says Columbia University oceanographer Wallace S. Broecker.

Diagnosing the earth’s condition requires hundreds of daily observations from both space and the ground—over decades, not years. “We’re culturally unaccustomed to say that we’re going to measure sea levels for the next 40 years,” says J. Michael Hall, director of the National Oceanic & Atmospheric Administration’s Office of Climatic & Atmospheric Research. Indeed, funding cutbacks are threatening to halt some aspects of a critically important, 30-year record of rising carbon-dioxide (CO₂) levels in the atmosphere compiled by Charles D. Keeling, an oceanographer at Scripps Institute of Oceanography.

Keeling’s data have already turned up some mysteries. Every year, fossil fuels burned by cars and power plants spew almost 6 billion tons of carbon into the



1983

Instruments on Nimbus-7 highlight the changes in ocean circulation caused by the devastating El Niño current

1984

Earth monitoring satellites take the first pictures of massive man-made fires destroying Amazon rain forest

1985

Earth Radiation Budget Satellite (ERBS) measures the cooling effect of clouds

1986

Studies of a decade of infrared photos from Landsat show increasing environmental stress in some U.S. forests

DATA: BW

Commentary/by Seth Payne

FORGET MARS—THE RACE NOW SHOULD BE TO COMMERCIALIZE SPACE

There's big talk in Washington about manned space exploration again. Two decades after President John F. Kennedy's promise to put a man on the moon came to fruition, the Bush Administration is setting its sights on a permanent moon base or a manned mission to Mars. Point man Vice-President Dan Quayle, whom Bush appointed chairman of the National Space Council, has the task of selling Congress on the idea—estimated to cost about \$100 billion.

But the idea is not likely to fly on Capitol Hill. "Congress is not headed out there," says Senator Ernest F. Hollings (D-S.C.), chairman of the Senate Commerce, Science & Transportation Committee.

That's not to say that space exploration is a closed issue in Congress. But the willingness of the current Administration to devote more money to space after the neglect of the Nixon and Reagan years should not set off a headlong rush to Mars. Instead, it should be used to catch up with competitors who are pushing to develop commercial applications in low-earth orbits.

VAST AREAS. Government-financed Japanese and West German programs to commercialize space are leaving America far behind. Both countries are preparing to launch low-cost, free-flying platforms for experiments and space manufacturing that will be tended periodically by U.S. shuttle astronauts. The European Space Agency has flights on its Eureka 1 space platform booked through 1995. Each flight will last for six months, compared with only a few days for shuttle-based experiments.

Those countries are ready to push ahead with space-based manufacturing pioneered by U.S. companies. The few

experiments already conducted in space's microgravity environment have shown that it could open vast areas of technology not possible on the ground, such as new metal alloys and ultrapure crystals for making semiconductors. "If we don't get our act together,

they're going to have the markets first," warns James T. Rose, head of commercial programs at NASA.

There is already a solid infrastructure for space commercialization in the U.S. At its core are 16 NASA Centers for Commercial Development of Space, involving 48 universities and 128 major corporations. Half-a-dozen companies also have separate agreements with NASA, and a similar number are about to sign up.

Yet there is a critical shortage of flights to put U.S.

experiments in orbit and to follow them up. On June 29, NASA selected 23 microgravity experiments for shuttle flights going up in 1990 and 1992. But 66 other projects could not get aboard. Some of these experiments are awaiting the \$30 billion manned space station, which won't be ready for at least a decade.

Meanwhile, two plans for space platforms are gathering dust. Fairchild Industries Inc. once proposed putting up small "Leasecraft" platforms for about \$100 million each—small change by space standards. There were no takers. Space Industries had plans to build a somewhat larger space facility, but it failed to win government support.

The U.S. has always been a nation of explorers. No doubt the idea of a city on the moon and human voyages to Mars would fire the nation's imagination. But for now, there's more to be gained by staying closer to home and spending more for badly needed research to develop new technologies.



QUAYLE WANTS TO SELL CONGRESS ON A \$100 BILLION SPACE PROGRAM

atmosphere. Keeling's first 15 years records show that only 55% of the carbon ended up as CO₂ in the air—almost researchers don't believe the oceans could absorb the rest. More puzzling, Keeling's analysis shows that for the second 15 years, the percentage jumped to 61%.

Where's the missing carbon and what is the proportion going into the air increasing? Keeling believes that initially much of the carbon was taken up by plants stimulated to grow by the increased levels of CO₂ in the air. But now, he suggests, massive cutting and burning of forests and grasslands is releasing more CO₂ than can be absorbed. Says Keeling: "The ramification is the destruction [of vegetation] is a lot larger than many people are estimating."

Whether Keeling is right or wrong may have profound implications for the next century's climate. To find out, scientists need more precise measurements of the rate of plant growth. Goddard Esaias has been pouring over color photographs of the seas from the Nimbus coastal zone scanner to spot trends in ocean plants. But so far, Esaias has learned that oceanic plant growth varies substantially from year to year—and that the data aren't adequate to determine if sea life is changing.

NO MONEY YET. A vastly more sensitive scanner that is capable of distinguishing tiny plants from sediment in the water is scheduled to fly on the EOS platform. For the moment, scientists are hopeful Congress approved a start for the EOS project even though it hasn't coughed up any money yet. And the Bush Administration has expressed strong support for the effort.

But scientists worry that the data they need might not be available until after "the earth may have really begun to change," says physicist Jay Zwally from NASA's Goddard Space Flight Center. Esaias, for one, hopes that NASA will follow through on a proposed venture with Hughes Aircraft Co. that would launch a similar instrument to measure plant growth by 1992. "We need the information now," he says.

Studying earth is certainly less glamorous than building colonies in space. Indeed, says John Eddy, making sense of the observations day after day is "about as dull as sitting down to water if a light bulb goes out." But geological history tells us that the earth is prone to driving species into extinction or covering continents with sheets of ice—even without a push from us. So we had better figure out how it behaves before our global experiment takes a nasty turn.

By John Carey in Washington, with Larry Armstrong in Pasadena, Calif.

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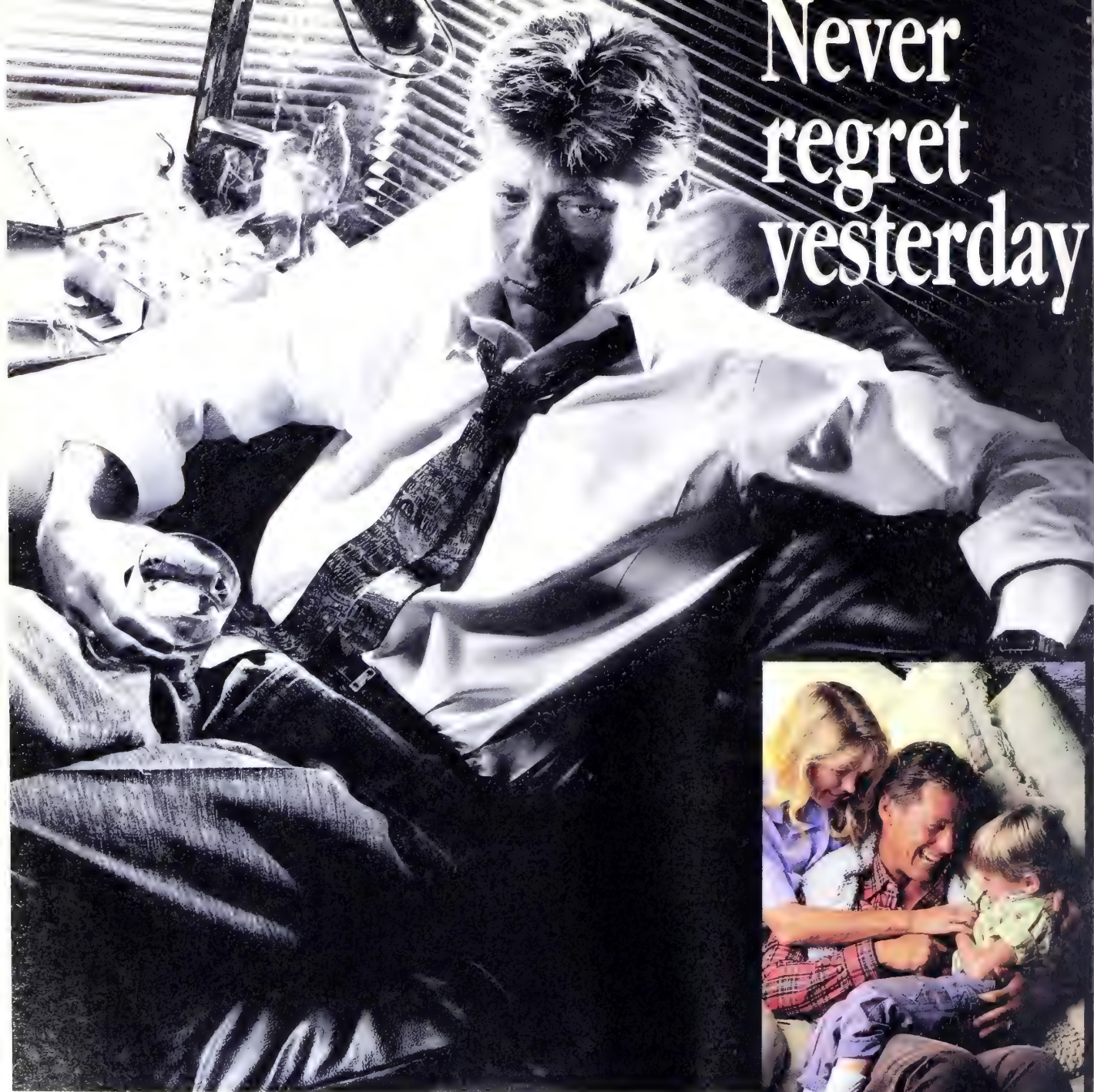
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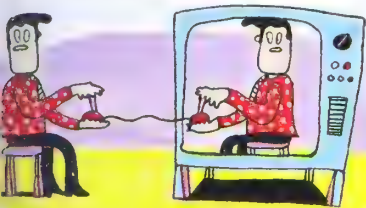
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EDITED BY OTIS PORT

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Picture a video game that puts you in the picture—by training a video camera on you, digitizing your image, and integrating your digital replica into the action of the game. When

you move, the simulated you in the TV set instantly responds, and you can snatch the golden key that unlocks a treasure trove or duel with laser swords to save a princess.

The idea was hatched six years ago by Vincent John Vincent and Frank MacDougall, then students at the University of Waterloo in Canada. Now their fledgling company, Vivid Effects in Concord, Ont., is getting set for a big-time debut: At this summer's Canadian National Exhibition in Toronto, Vivid Effects will show off a you-be-the-goalie game. Players will see themselves in front of a hockey net and will try to defend as pucks come flying from various angles.

Don't look for such an interactive video game in your local arcade anytime soon, though. Since the technology now requires a personal computer, a laser-disk player, a video camera, and a color TV, the hardware alone is expensive. While striving to trim costs, Vivid Effects is hunting for companies to sponsor a touring road show to stimulate demand.

COMING SOON TO A SCHOOL NEAR YOU: THE DIGITAL MIMEOGRAPH

What's the fastest and lowest-cost computer printer around—or soon to be around, at least? None other than the venerable stencil duplicator. Ricoh Corp. has just unveiled a digital mimeograph that prints with the resolution of the best laser printers—300 or 400 dots per inch—yet turns out copies about 10 times faster: 120 per minute.

Developed by Ricoh's U.S. engineers, the prototype duplicator has a special plug for hooking up a personal computer so documents can go straight from a PC screen to a stencil. The West Caldwell (N.J.) company isn't saying when the new digital mimeograph will be available or what it will cost. But for long print runs, such as cafeteria menus, classroom tests, and church bulletins, its per-copy cost—as low as 0.01¢—should be a fraction of those for other methods.

I BOUGHT AND SOLD, I MADE A LOAD, TRADING WITH MYWAY

Computerized trading has been moving from Wall Street to private investors for a couple of years. But most software packages that run on personal computers blindly follow some rigid set of rules and thus tend to offer the same buy/sell signals to all users.

Not MyWay. This aptly named program allows investors to factor in their own attitude—from very conservative to highly aggressive—toward each stock as well as toward one or more entire portfolios under MyWay's management. As a result, the program could conceivably suggest simultaneously buying and selling the same stock. MyWay is different in another way,

too: It is aimed at long-term investors, not speculators. And busy managers will appreciate the fact that the latest prices need to be fed to the computer only once a week or so.

How does the \$495 package work? By exploiting the fact that nearly three-quarters of all stocks vary in price by more than 50% a year, according to MyWay's publisher, MoneyWon Inc. in Raritan, N.J. So it hews to that sage advice about buying in stages on the upswing and doing the reverse on the downside. Even though MyWay doesn't attempt to predict the absolute high or low, its long-term results should substantially outperform market averages, claims MoneyWon.

FOR ENGINEERS, A SHORTCUT TO TAGUCHI QUALITY CONTROL

The statistics in statistical quality control (SQC) can get pretty hairy, but they are child's play next to the math involved in the Taguchi Method. So this fall, Texas Instruments Inc. will unveil an "expert system" that will allow virtually any engineer with a personal computer to apply the Taguchi Method, even without taking a week-long course at the American Supplier Institute in Dearborn, Mich., co-founded by Ford Motor Co. and Genichi Taguchi, Japan's leading quality guru.

Intensive training is usually necessary because Taguchi's approach to quality can be hard to swallow. For example, his statistics show that any deviation from design specifications, even those well within normal tolerances, quickly gets expensive in terms of warranty costs and lost goodwill. Still more mind-boggling is his insistence that the key to good quality isn't tracking and eliminating individual causes of off-spec parts, which is the goal of traditional SQC. Instead, he advocates curbing the effects of all manufacturing variations—simultaneously. That takes statistical tools so complex that many engineers are intimidated. TI hopes its expert system, which has been endorsed by Taguchi, will change that.

USING SOUND TO TURN SILICON INTO PLASTIC

Integrated optoelectronics are microchips crammed with a maze of circuitry—for carrying light, not electrical signals, in tomorrow's "optoelectronic" equipment. The technology is still in its infancy, but research should be speeded up by a new class of plastics based on silicon, the stuff from which regular chips are made.

Timothy W. Weidman, a research chemist at AT&T Bell Laboratories, has discovered that silicon atoms can be prodded into becoming a peculiar kind of plastic by hammering them with intense ultrasonic energy. The waves of ultrasound coerce the atoms into forming interlocking rings. The resulting polysilene material can then be laid down as a thin coating on regular semiconductor wafers and "printed" with a circuit pattern the same way as today's chips—except that the lines "develop" into so-called optical waveguides. The entire process takes just minutes, not the days needed with existing techniques, so researchers will be able to test more designs faster.

However, polysilene optochips are now suitable only for research experiments. The waveguides gradually decay and become unusable after a few weeks. But Weidman is working on possible ways to cure that.



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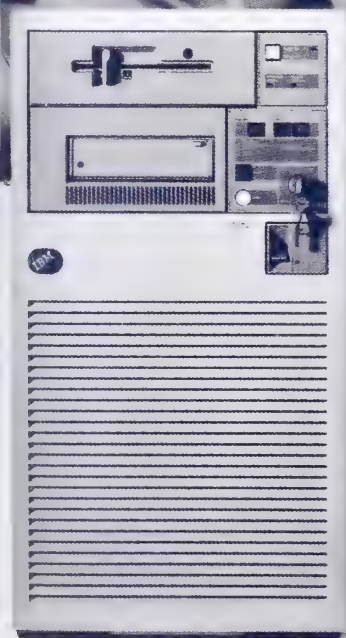
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LIFE INSURANCE THAT PAYS OFF WHILE YOU'RE STILL AROUND



It's the stuff of fiction—and sometimes of police reports: Someone greedy for cash manages to collect on a life insurance policy without undergoing the inconvenience of dying. But now such a scenario can be perfectly legal. More than a dozen insurance companies offer policies, already available in about 35 states, that let you get your hands on at least part of the so-called death benefit while you're still alive.

The policies are an industry response to heavy medical expenses that go hand in hand with the graying of America: As people live longer, the odds increase that they will need to pay for nursing home care or such costly procedures as dialysis, coronary bypass, or organ transplant.

Until a federal plan is de-

vised to help out in such situations, most people must look to the private sector. One entrepreneur (BW—June 19) has made a business of advancing cash for medical bills or other expenses to terminally ill people in exchange for being named beneficiary on their life insurance policies. And nearly 100 insurers, including Prudential, John Hancock, and Travelers, have policies that pay \$50 to \$100 a day for nursing home care. But annual premiums can run to \$1,200 for a 65-year-old, and the policies often exclude Alzheimer's and other conditions that can lead to a long stay.

SUGARED PILL. Most of the long-term-care policies have met with considerable sales resistance, says Edward Murphy, an actuary at National Travelers Life in Des Moines.

Although estimates hold that one-third of Americans age 65 and over will spend at least a year in a nursing home at some point, few people of advanced age want to bear those hefty annual premiums. So insurers have devised an alternative: "accelerated benefits" or "living benefits" coverage attached to a whole life or universal life policy.

Some plans, such as that of Jackson National Life in Lansing, Mich., let you immediately collect a lump sum—20%, 25%, or 30% of the policy's face value—to pay for an expensive operation or treatment. Plans offered by First Penn, National Travelers, and others let you have 1% to 3% of the face value each month as long as you're in a nursing home. Whatever amount you receive, of course, reduces the

sum your beneficiaries eventually get.

The insurers say the new plans are a better deal than the expensive "freestanding" policies for nursing home stays. As part of a standard life insurance contract, the accelerated benefits feature adds only 3% to 5% to premium costs. (Some insurers are considering letting holders of existing policies purchase a low-cost rider to provide living benefits.) In most cases, notes Murphy, the extra cost is "less than you'd pay for an accidental-death rider."

An example: Provident Life's Accelerated Benefits Life (ABL) policy costs a 65-year-old nonsmoker about \$1,400 a year for each \$100,000 worth of coverage; a 65-year-old would pay about \$4,500. If a stroke, coronar-

ceer, or other specified emergency occurs, an ABL policyholder can immediately elect up to \$30,000 from a \$100,000 policy, \$300,000 from a \$1 million policy. Borrowing a similar sum from a regular insurance policy, says Terry Roberts, Provident Life's president, "would mean the policy had to be in effect for 18 years before it built enough cash value."

PLING PREMIUM. The lump sum can go for any purpose: hospital bills, nursing home costs—even a trip around the world for someone fatally ill. "If you collect, says Roberts, the death benefit drops 70% of the original amount. It so does the annual premium. And, assuming that a serious health problem will adversely affect your income, the waive premium payments for the next two years," Roberts adds.

If the worry is nursing home costs, First Penn's Assured Care policy takes a different tack: After your first 90 months in a convalescent facility, the company pays out 10% of the death benefit each month. That effectively finances a 50-month stay before the entire amount is distributed. A similar policy from ITT in Minneapolis provides monthly payments of 2% of the first \$150,000 of face value and 0.5% of anything above that, up to \$1 million, until 48% of the death benefit has been used.

Don't think a sudden wave of sympathy and generosity is behind the insurers' new plans: If the companies help someone live longer by paying out a partial death benefit in advance, the sum remaining in their coffers goes on earning interest. For the policyholder who collects, the plans are so new that definitive tax rulings do not yet exist. But the insurance industry's position is that any pre-death sum received (or which is made over to a nursing home on your behalf) does not constitute income. For that reason, the money should have no adverse effect on anyone's Social Security or health-insurance benefits. *Don Dunn*

Collecting

MISSION OAK: A SOLID INVESTMENT

At the turn of the century, it was considered furniture for those of modest means—spare, simple designs in an era when ornate carving and gilded opulence were the popular style. And for nearly 60 years, you could have bought a piece of Mission Oak furniture for little more than the cost of the lumber itself. In 1972, New Jersey architect Don Mallow picked up a Mission footstool in a local antique shop for \$45. Today, a similar stool would cost at least \$2,000.

After mounting steadily for several years, prices for Mission pieces exploded in the mid-1980s and have been setting records ever since. Last



MISSION SETTLE: VINTAGE, BUT SUITED TO CONTEMPORARY SETTINGS

er audience," says Robert Melita, owner of Peter-Roberts Antiques in New York.

Mission Oak is the term for the ranch-style furniture produced by Gustav Stickley, a Wisconsin craftsman, and his brothers, who formed a separate company, L. & J. G. Stickley, in 1904. Others, too, made furniture that would look at

ley originals. Less popular designs by L. & J. G. Stickley, Elbert Hubbard, and Charles P. Limbert cost far less. An L. & J. G. Stickley settle, for example, would leave your wallet just \$3,000 to \$4,000 lighter. Major Mission galleries in New York include Jordan-Volpe Gallery (212 226-3225) and Peter-Roberts



EASY CHAIR: PRICES EXPLODED IN THE 1980s



BOOKCASE: MISSION REPLICAS ARE IN THE OFFING

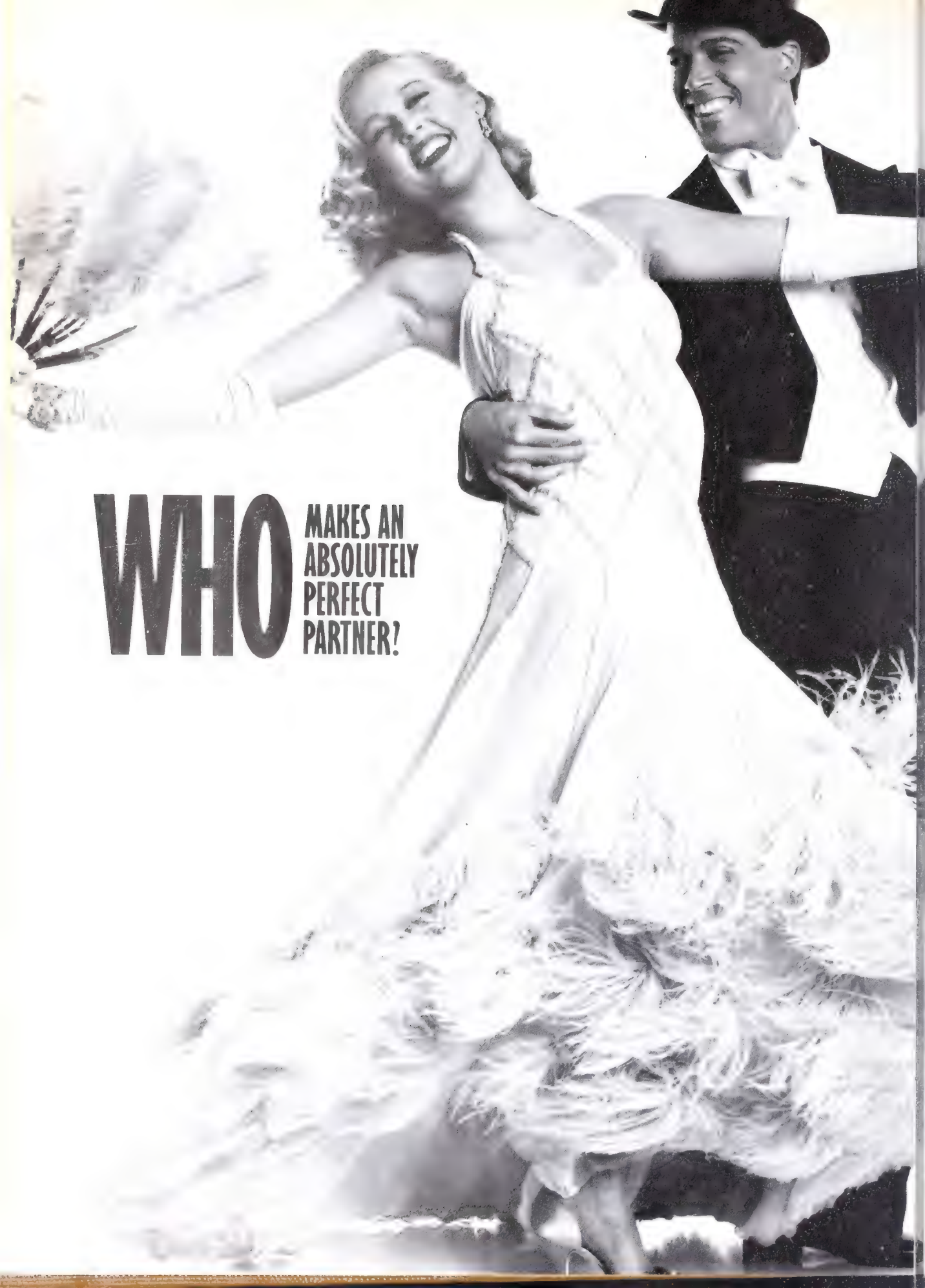
December, Barbra Streisand paid \$363,000 for a Mission Oak sideboard at a Christie's auction. With its Spartan lines, visible joinery, and natural wood, Mission furniture is at once vintage and yet ideally suited to contemporary settings. "A new respect for the honesty and integrity of the furniture is attracting a large

home in an old Southwestern mission. But pieces made by the Stickleys, especially Gustav, are the highest in value.

REPRO MEN. Too high, according to many collectors. The same Stickley settle couch that sold for \$100 five years ago now goes for anywhere from \$15,000 to \$20,000. But there are alternatives to Stick-

Antiques (212 226-4777).

The boom has reached such proportions that L. & J. G. Stickley Inc. in Manlius, N. Y., will soon produce a line of reproductions of rare Stickley brothers originals currently worth roughly \$80,000 apiece. The replicas will be priced at just a few thousand. *J. H. Plummer*



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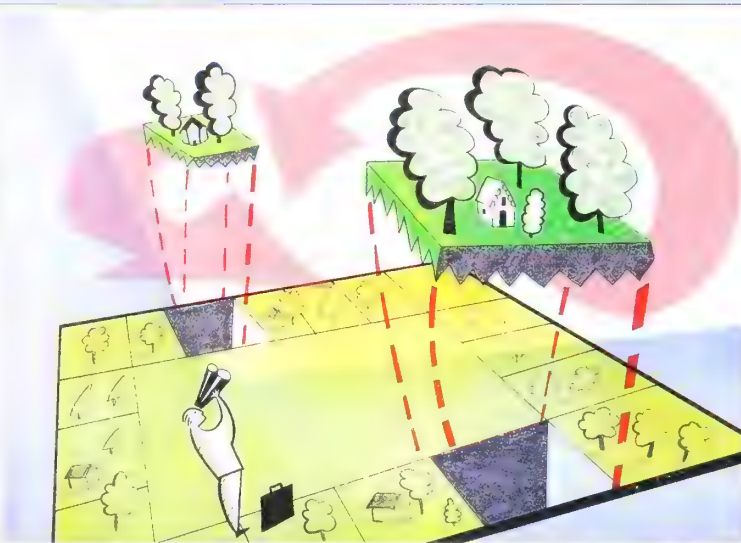
Tax Tips

TIGHTER RULES FOR SWAPPING REAL ESTATE

Although real estate investors were squeezed hard by the 1986 Tax Reform Act, it did leave them one avenue of escape—a way to get rid of investment property without paying tax on capital gains.

The device is called a “like-kind” real estate exchange, and while it was not exactly unheard of before tax reform, it became all the rage when the law started to tax capital gains at higher regular rates.

So now lawmakers want to make this device, also known as a “Starker swap” after a 1979 tax case, harder to use. Since new ground rules, likely to be passed by Congress later this year, could turn out to be retroactive to a date as early as July 10, such deals already have to be ap-



proached with great caution.

Generally, transactions pass muster as long as the swapper identifies the property targeted for the exchange within 45 days after he agrees to the swap in writing. He then has 180 days to complete the deal. And almost anything qualifies as like-kind. For example, you may swap raw land for improved property as long as both were investments, or a house for an office building as long as they

both were rental properties.

When two parties don't have the property that each wants, they can undertake a “three-corner exchange.” Under such a scheme, you might acquire your tennis partner's rental home even if what your partner really wants is an office building. You would buy the office building from a third party and exchange it for your partner's rental home.

The proposed rules, howev-

er, would put a crimp on triangular exchanges: Tax writers want to narrow qualifications to allow exchanges only among properties that are “similar or related in service or use.” You no longer would be able to exchange land for improved, for instance. In addition, swapped property must have served a particular use for at least one year prior to the exchange. Finally, taxpayers must hold swapped properties for at least two years be-

fore selling them again. “This is going to change the whole ball game,” says Kevin R. Kerr, a tax accountant with Panel Kerr Forster in Washington, D.C.

But tax writers want to ensure more straightforward exchanges, not end them altogether. So even though property owners have to tread more carefully in designing swaps, where they have a will, there will still be a way. *Catherine Yocum*

Potables

CALIFORNIA'S NEW GOLD RUSH: MORE LUSCIOUS CHARDONNAYS



Ah, summer. Time for alfresco dining and the golden glories of chardonnay. The big news is that California has made a quantum leap in the quality of its chardonnays.

Not long ago, most California chardonnays were too bland or too acidic. But with West Coast wineries' rediscovery of barrel fermentation, minimal filtration, and other traditional French winemak-

ing techniques, quality has soared. The resulting wines can hold their own with far pricier *premier cru* white burgundies. Meet some stars: ■ **'86 Kalin “Cuvée L.”** Don't be put off by its cheap-looking label. This wine has a crisp acid snap, but a nice fruit taste. At \$18, it's already great and will improve with cellaring (all prices are for Washington, D.C., and may be higher elsewhere).

■ **'87 Long.** A tiny Napa operation, Long makes wines that are hard to find and expensive—but worth it. The '87 is still a bit undeveloped, but it has a lot of potential (\$25).

■ **'85 Simi Reserve.** This is a rich, earthy, complex wine; better than many Chassagne-Montrachets, but the \$33 price tag is a bit daunting.

If you can't locate these wines, plenty of other super chardonnays are around. Among them: '86 Congress Springs San Ysidro reserve (\$16); '87 De Loach “Russian

River OFS” (\$22); '86 Forness (\$24); '86 Grgich Hills (\$30); '86 Kistler “Dutton” (\$18); and '86 Saintsbury reserve (\$20). With any of them, you'll be able to toast the summer in style. *Lee Wallace*

Worth Noting

■ **PLANE TALK.** For \$69 per month, passengers can be paged while they're in flight according to National Satellite Paging (601 944-7136). Although you can't be called directly, your beeper will let you know to phone a message center when you land.

■ **AIR EXPRESS.** Flying to New York from overseas? The new international-arrival terminal at Newark lets you avoid JFK's long walks to baggage carousels and long lines at customs. Among carriers using the facility: SAS, British Airways, Continental, Virgin Atlantic Airways, and Northwest Orient.

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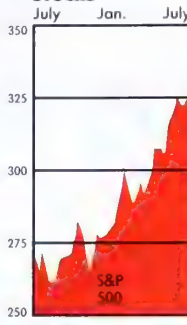
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Investment Figures of the Week

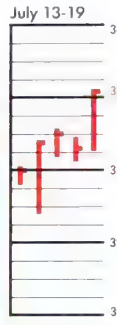
COMMENTARY

Another buoyant week in the market: Except for some volatility on July 17 and 18, equities were on the rise. The Dow Jones industrial average gained points on July 19 to close at a crash high. The proximate cause was word of a lower-than-expected rise in the consumer price index during June. Program cuts helped. Interestingly, the gains did not deter a strengthening of the dollar, which ended the week with a gain of almost a full percentage point.

STOCKS

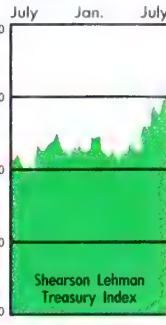


52-week change
+24.3%



1-week change
+1.8%

BONDS

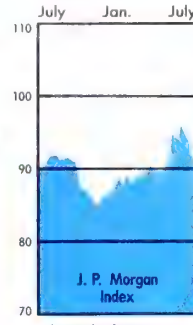


52-week change
+10.6%

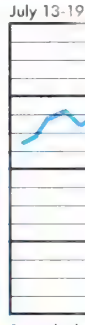


1-week change
-0.9%

THE DOLLAR



52-week change
+3.0%



1-week change
+0.9%

MARKET ANALYSIS

STOCKS

	Latest	% change	
		Week	52-week
DOW JONES INDUSTRIALS	2584.4	2.0	22.4
COMPANIES (Russell 1000)	177.3	1.6	23.8
ALL COMPANIES (Russell 2000)	174.1	1.3	15.2
COMPANIES (Russell 3000)	190.1	1.6	23.0

FOREIGN STOCKS

	Latest	% change (local currency)	
		Week	52-week
LONDON (FINANCIAL TIMES 100)	2292.5	1.6	22.8
TOYO (NIKKEI INDEX)	33,557.2	-0.4	21.8
TOKYO (TSE COMPOSITE)	3872.6	0.9	13.2

FUNDAMENTALS

	Latest	Week ago	Year ago
90-DAY TREASURY BILL YIELD	8.2%	8.0%	6.9%
30-YEAR TREASURY BOND YIELD	8.1%	8.0%	9.2%
S&P 500 DIVIDEND YIELD	3.3%	3.4%	3.7%
S&P 500 PRICE/EARNINGS RATIO	13.1	12.9	13.0

TECHNICAL INDICATORS

	Latest	Week ago	Reading
S&P 500 26-week moving average	306.7	304.9	Positive
Stocks above 26-week moving average	65.6%	65.4%	Neutral
Speculative sentiment: Put/call ratio	0.22	0.22	Negative
Insider sentiment: Vickers sell/buy ratio	2.16	1.93	Neutral

INDUSTRY GROUPS

4-WEEK LEADERS

	% change	
	4-week	52-week
AIRLINES	10.5	58.7
OIL WELL EQUIPMENT AND SERVICES	10.3	27.5
HOSPITAL MANAGEMENT	9.8	41.6
ENTERTAINMENT	9.6	67.2
FURNISHINGS AND APPLIANCES	8.9	21.6

4-WEEK LAGGARDS

	% change	
	4-week	52-week
MACHINE TOOLS	-6.8	-20.5
INSURANCE	-5.7	-4.5
COMPUTER SOFTWARE AND SERVICES	-5.0	9.0
HEAVY-DUTY TRUCKS AND PARTS	-4.0	7.2
HOMEBUILDING	-3.8	50.0

Strongest stock in group

	% change		Price
	4-week	52-week	
UAL	38.3	85.6	177 3/4
HALLIBURTON	16.6	20.1	35 1/8
AMERICAN MEDICAL INTL.	17.5	47.5	26
WALT DISNEY	12.1	64.6	101 7/8
ARMSTRONG WORLD INDUSTRIES	29.0	33.0	48 7/8

Weakest stock in group

	% change		Price
	4-week	52-week	
CINCINNATI MILACRON	-8.6	-20.0	20
BRUNSWICK	-9.0	-23.4	16 3/8
LOTUS	-13.5	-7.2	22 1/2
CUMMINS ENGINE	-13.8	11.9	60 1/8
U. S. HOME	-13.3	-43.5	15 1/8

BRIDGE INFORMATION SYSTEMS INC.

MUTUAL FUNDS

LEADERS

	4-week total return	%
STRATEGIC INVESTMENTS	15.5	
UNITED SERVICES GOLD SHARES	11.9	
FIDELITY SELECT BACHE GLOBAL GENESIS	11.7	

LAGGARDS

	4-week total return	%
FIDELITY SELECT SOFTWARE & COMPUTER	-6.7	
STRATEGIC GOLD/MINERALS	-4.5	
FIDELITY SELECT COMPUTERS	-4.2	

52-WEEK TOTAL RETURN

	52-week total return	%
STRATEGIC GOLD/MINERALS	-25.4	
STRATEGIC SILVER	-19.3	
UNITED SERVICES NEW PROSPECTOR	-16.0	

4-WEEK TOTAL RETURN

	4-week total return	%
STRATEGIC INVESTMENTS	15.5	
UNITED SERVICES GOLD SHARES	11.9	
FIDELITY SELECT BACHE GLOBAL GENESIS	11.7	

52-WEEK TOTAL RETURN

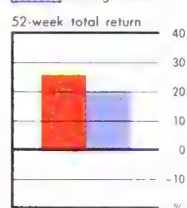
	52-week total return	%
STRATEGIC GOLD/MINERALS	-25.4	
STRATEGIC SILVER	-19.3	
UNITED SERVICES NEW PROSPECTOR	-16.0	

S&P 500



MORNINGSTAR INC.

Average fund



RELATIVE PORTFOLIOS

Relative amounts
represent the present
value of \$10,000
invested one year
in each portfolio

Percentages indicate
daily total returns



U. S. stocks
\$12,558
+0.78%



Treasury bonds
\$12,307
-1.44%



Foreign stocks
\$11,823
-1.01%



Money market fund
\$10,700
+0.16%



Gold
\$8,465
-1.86%

DATA RESOURCES INC.

Data on this page are as of market close Wednesday, July 19, 1989, unless otherwise indicated. Industry groups include S&P 500 companies only; performance and share prices are as of market close

July 18. Mutual fund returns are as of July 14. Relative portfolios are valued as of July 18. A more detailed explanation of this page is available on request.

TIME'S DIRECTORS SHOULDN'T CHEER YET

In whose interest should a corporation be run? The Delaware Chancery Court has refused to block Time Inc.'s proposed purchase of Warner Communications Inc. for \$14 billion, thus refocusing the old debate on the responsibilities of directors. Judge William T. Allen's decision is a clear blow to shareholders. He said flatly that directors aren't obligated "to follow the wishes of a majority of shares." To drive the point home, he wrote that "in fact, directors, not shareholders, are charged with the management of the firm."

We confess to some mixed feelings on the subject. We think that corporate managers backed by directors ought to be free to make long-term decisions without putting them to shareholder vote. And it is certainly true that Time was pursuing the Warner deal for a long time and was acting for strategic reasons, not merely to fend off a takeover. That is its clear right.

Unfortunately, Time committed some blunders that hurt its case. By agreeing to give up 62% of its shares to Warner shareholders in the original deal, it made it appear that Warner was effectively acquiring Time, thus putting Time in play. That opened the way for Paramount's bid. Moreover, Time's claim that it wanted to protect its editorial independence was damaged when it barred its magazines from doing a story on the original Time-Warner deal. Finally, excessively generous deals for Time and Warner management gave the deal a greedy taint.

It is now up to Time, backed by its legally reinforced directors, to show that the deal was worth it. On the face of it, they will have a hard time. What would Time-Warner be worth three years hence? If a reasonable guess is \$250 a share, that is less than the present value of the Paramount offer, assuming a 10% interest rate. Time now has a responsibility to deliver on what amounts to a promise to its shareholders that the Time-Warner combination can do better. As a matter of law, Judge Allen may well be following established precedent. As a matter of equity to shareholders, Time, as they say, will tell.

THE PROOF IS IN THE CASH FLOW

Time's possible purchase of Warner Communications brings another nagging issue to the fore: the devastating impact that the elusive asset called goodwill has on reported earnings (page 73). For this \$14 billion deal, approximately \$3 billion could be attributed to Warner's hard assets. But \$11 billion might wind up on Time's books as goodwill. Under generally accepted accounting principles, Time—or any acquirer—must gradually write off this asset against earnings. In Time's case, the annual goodwill expense could amount to \$300 million. That's a big hit to the

bottom line. What's more, the Internal Revenue Service does not permit companies to use goodwill expenses to reduce their taxes.

The problem is that many foreign companies have an edge bidding against U.S. companies. In Britain, tax rules allow acquirers to go to the balance sheet and subtract the goodwill from retained earnings; it never appears on income statements. In West Germany, Canada, and Japan, companies must expense goodwill but can also write these expenses off against taxes.

There's a solution here: The International Accounting Standards Committee proposes that all member countries require goodwill to be written off in no more than 10 years. While a longer period would be more appropriate, in a world of international takeovers, everyone should treat goodwill the same—both in reporting earnings and in paying taxes.

Some experts want companies simply to forgo goodwill expenses. That would be a step backward. Bookkeeping entries for goodwill, like those for depreciation, enable companies to recover investments on their books and thus keep their accounting straight. Although such "expenses" reduce reported profits, they have no impact on cash flow. And, as more and more investors realize, that's the real bottom line.

BUSINESS, NOT SHOW BIZ, SHOULD CONCERN NASA

Nostalgic memories of one of America's greatest triumphs—the Apollo 11's landing on the moon 17 years ago—is prompting a wave of wishful thinking in Washington. Vice-President Dan Quayle, who serves as chairman of the National Space Council, and other boosters of manned space missions hope to generate support for new space initiatives, including a colony on the moon and a trip to Mars.

Such spectacular feats aren't the way to restore the nation's preeminence in space. For one thing, there's little likelihood that Congress or the White House will be able to find the \$100 billion over the next decade that such a program would cost. Equally important, the focus of the nation's space program should not be on manned missions which have limited practical use. Instead, the emphasis should be on less expensive ventures that could reap commercial benefits from space and boost America's international competitive position.

West Germany and Japan are far ahead of the U.S. in plans to exploit the unique environment in space for commercial purposes. Low gravity permits important experiments in such areas as materials processing and crystal manufacturing that do not require constant human attention (page 92). Making matters worse, the West Germans and Japanese will be using the \$15 billion U.S. space shuttle to carry up and retrieve their research platforms at bargain basement prices.

If the nation ever again is as flush as it was two decades ago, it can launch new voyages to the planets. But for now the U.S. can't afford to waste money on splashy projects with no clear payoff.

BURLINGAME

JUL 29 1989

RAH

RETHINKING JAPAN



After years of haggling, the U.S. still runs a \$52 billion annual trade deficit with Japan, and Japanese society remains closed in crucial ways. As a result, a radical shift in U.S. thinking about Japan is under way. This revisionist view holds

that Japan really is different—and that conventional free-trade policies won't work. Once, such views would have been dismissed as "Japan-bashing," but now they have an intellectual base. At a time of political crisis in Japan, America's challenge is to restore economic balance

ler relationship. PAGE 44

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BW 2

 HARRIS



DIFFERENT GENERATION, SAME JAPAN: THE REVISIONIST VIEW SEES A SOCIETY THAT'S NOT GOING TO CHANGE VERY MUCH IN THE FUTURE

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44 RETHINKING JAPAN

A growing cadre at the highest levels of U. S. government, business, and academe is discarding the hope that the Japanese will ever subscribe to free-market rules. If they won't grow more like us, the feeling goes, maybe we can become more like them. Import restrictions and managed trade, the revisionists assert, are games two can play

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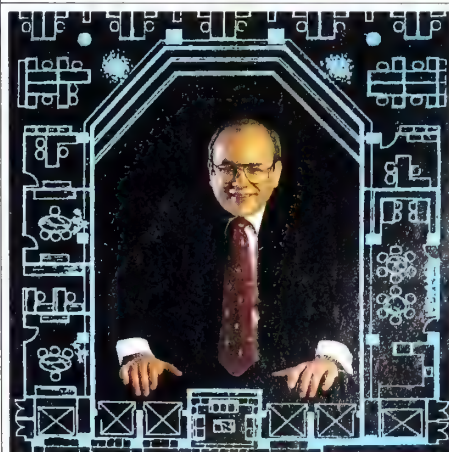
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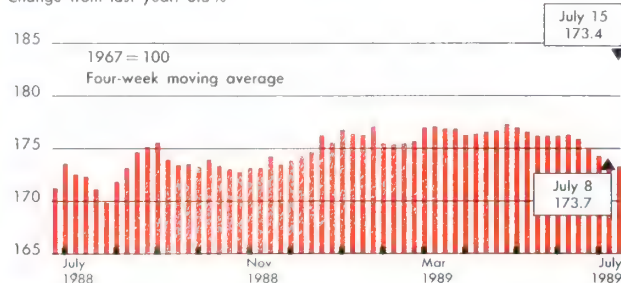
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BusinessWeek Index

PRODUCTION

Change from last week: -0.2%
Change from last year: 0.5%

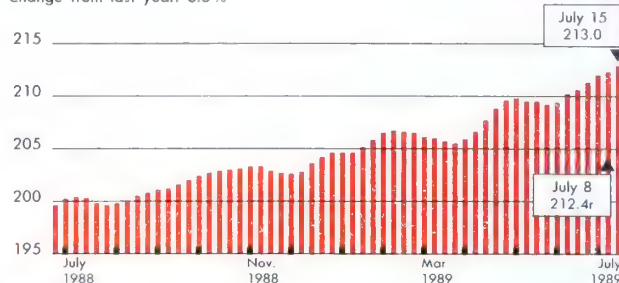


The production index dropped slightly for the week ended July 15. On a seasonally adjusted basis, output of trucks, autos, paper, electric power, and crude-oil refining all declined. Lumber, rail-freight traffic, and coal production increased. Output of steel and paperboard was unchanged from the previous week. Before calculation of the four-week moving average, the index fell to 172.5 from 173.2 in the prior week.

BW production index copyright 1989 by McGraw-Hill Inc.

LEADING

Change from last week: 0.3%
Change from last year: 6.3%



The leading index increased for the week ended July 15, its seventh consecutive weekly gain. Higher stock prices, slightly lower bond yields, and faster growth in both M2 and real estate loans contributed to the advance. The number of business failures and the growth rate for materials prices was unchanged from the prior week. Before calculation of the four-week moving average, the index rose sharply, to 214.8 from 212.6 in the previous week.

Leading index copyright 1989 by Center for International Business Cycle Research

PRODUCTION INDICATORS

	Latest week	Week ago	% Change year ago
STEEL (7/22) thous. of net tons	1,850	1,846 #	-3.2
AUTOS (7/22) units	82,328	55,937r #	-6.5
TRUCKS (7/22) units	69,422	37,845r #	1.4
ELECTRIC POWER (7/22) millions of kilowatt-hours	59,161	62,240 #	-4.9
CRUDE-OIL REFINING (7/22) thous. of bbl./day	13,947	13,944 #	1.2
COAL (7/15) thous. of net tons	13,842 #	11,388	-22.3
PAPERBOARD (7/15) thous. of tons	746.5 #	712.4r	5.6
PAPER (7/15) thous. of tons	690.0 #	692.0r	-0.4
LUMBER (7/15) millions of ft.	486.1 #	146.1	10.0
RAIL FREIGHT (7/15) billions of ton-miles	17.0 #	13.9	-8.6

Sources: American Iron & Steel Inst., Ward's Automotive Reports, Edison Electric Inst., American Petroleum Inst., Energy Dept., American Paper Inst., WWPAA¹, SFPA², Association of American Railroads.

FOREIGN EXCHANGE

	Latest week	Week ago	Year ago
JAPANESE YEN (7/26)	141	142	133
GERMAN MARK (7/26)	1.87	1.90	1.88
BRITISH POUND (7/26)	1.65	1.62	1.72
FRENCH FRANC (7/26)	6.35	6.44	6.33
CANADIAN DOLLAR (7/26)	1.19	1.19	1.21
SWISS FRANC (7/26)	1.61	1.64	1.56
MEXICAN PESO (7/26) ³	2,529	2,523	2,300

Sources: Major New York banks. Currencies expressed in units per U. S. dollar, except for British pound expressed in dollars.

PRICES

	Latest week	Week ago	% Change year ago
GOLD (7/26) \$/troy oz.	372.300	370.700	-14.0
STEEL SCRAP (7/25) # 1 heavy, \$/ton	110.50	110.50	-9.8
FOODSTUFFS (7/24) index, 1967=100	222.1	223.5	-9.3
COPPER (7/22) ¢/lb.	114.6	109.7	8.7
ALUMINUM (7/22) ¢/lb.	79.0	79.5	-36.0
WHEAT (7/22) # 2 hard, \$/bu.	4.27	4.30	13.3
COTTON (7/22) strict low middling 1-1/16 in., ¢/lb.	68.02	66.38	19.0

Sources: London Wed. final setting, Chicago mkt., Commodity Research Bureau, Metals Week, Kansas City mkt., Memphis mkt.

Raw data in the production indicators are seasonally adjusted in computing the BW index (chart); other components (estimated and not listed) include machinery and defense equipment
1 = Western Wood Products Assn. 2 = Southern Forest Products Assn. 3 = Free market value NA = Not available r = revised NM = Not meaningful

LEADING INDICATORS

	Latest week	Week ago	% Change year ago
STOCK PRICES (7/21) S&P 500	333.79	329.49	24.
CORPORATE BOND YIELD, Aaa (7/21)	8.93%	8.94%	-11.
INDUSTRIAL MATERIALS PRICES (7/21)	104.9	104.6	5.
BUSINESS FAILURES (7/14)	NA	232	N.
REAL ESTATE LOANS (7/12) billions	\$332.7	\$330.5r	14.
MONEY SUPPLY, M2 (7/10) billions	\$3,111.4	\$3,097.0r	3.
INITIAL CLAIMS, UNEMPLOYMENT (7/8) thous.	335	344	13.

Sources: Standard & Poor's, Moody's, Journal of Commerce (index: 1980=100), Dun Bradstreet (failures of large companies), Federal Reserve Board, Labor Dept. CIBCR seasonally adjusts data on business failures and real estate loans.

MONTHLY ECONOMIC INDICATORS

	Latest month	Month ago	% Change year ago
CONSUMER PRICE INDEX (June)	124.1	123.8	5.
REAL GROSS WEEKLY PAY (June)	\$165.10	\$165.18	-1.
ORDERS FOR DURABLE GOODS: MFG. (June) billions	\$124.1	\$123.7	-1.
BUDGET SURPLUS OR DEFICIT (-) (June) millions	\$7,789	-\$25,466	-14.

Sources: BLS, Commerce Dept., Treasury Dept.

MONETARY INDICATORS

	Latest week	Week ago	% Change year ago
MONEY SUPPLY, M1 (7/10)	\$778.7	\$777.4r	-0.
BANKS' BUSINESS LOANS (7/12)	315.9	316.9	4.
FREE RESERVES (7/12)	413r	224r	NA
NONFINANCIAL COMMERCIAL PAPER (7/10)	126.9	125.6	40.

Sources: Federal Reserve Board (in billions, except for free reserves, which are expressed for a two-week period in millions).

MONEY MARKET RATES

	Latest week	Week ago	Year ago
FEDERAL FUNDS (7/25)	9.14%	9.24%	7.80%
PRIME (7/26)	10.5-11.0	10.5-11.0	9.50
COMMERCIAL PAPER 3-MONTH (7/25)	8.60	8.68	7.92
CERTIFICATES OF DEPOSIT 3-MONTH (7/26)	8.80	8.85	8.06
EURODOLLAR 3-MONTH (7/19)	8.81	8.91	8.18

Sources: Federal Reserve Board, First Boston

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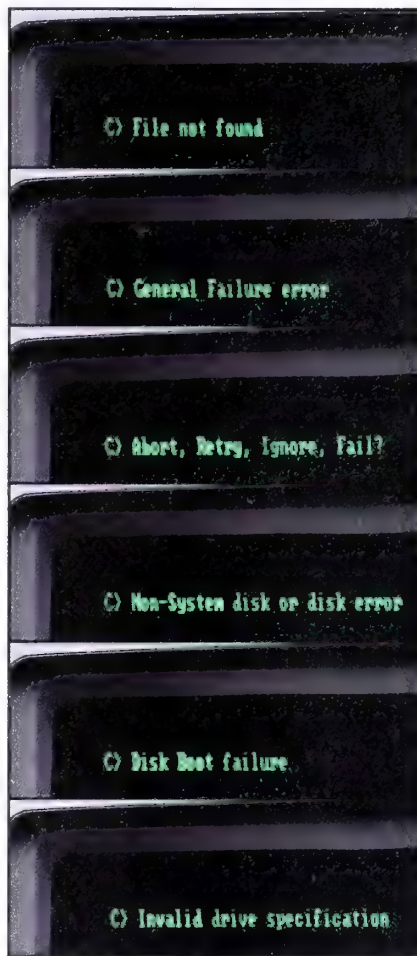
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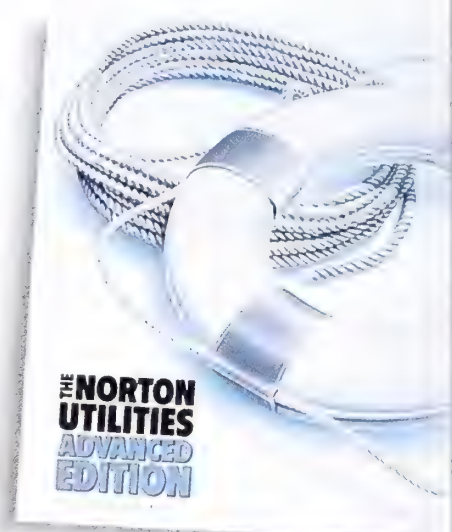
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COMPUTING

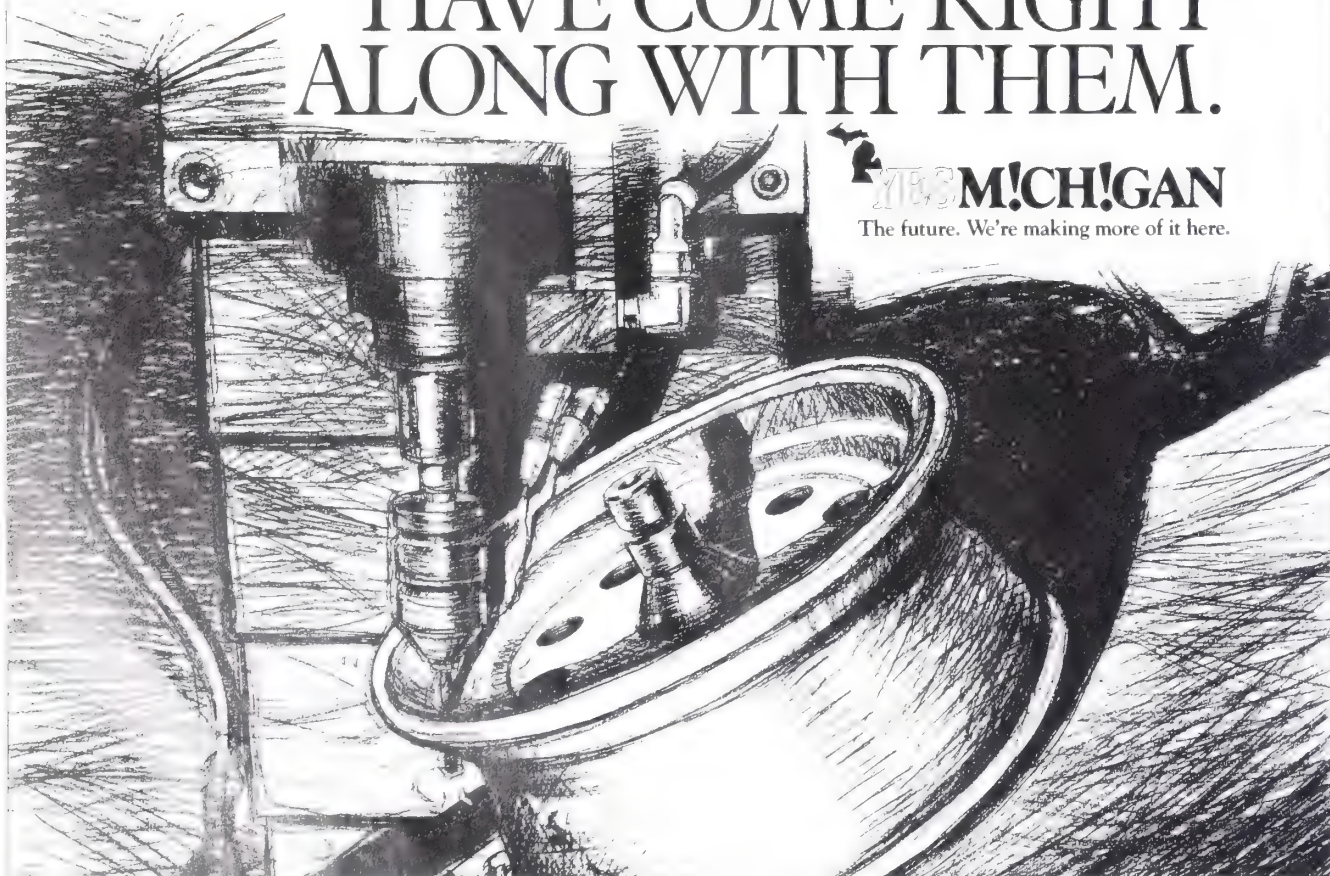


MICHIGAN'S MACHINES SURE HAVE COME A LONG WAY.

When you think of Michigan, one of the first things you think of is automobiles. But what about the machines behind the machines? Well, Michigan's machine tool industry is just as technologically advanced as our car industry, thank you ■ William Bournias, President, Machining and Assembly Systems, Litton Industrial Automation in Warren said, "The 'Mecca' of the machine tool industry is based in Michigan" It's only natural This is where the big industries are: plastics, appliances and food processing, as well as automotive But perhaps the most important fact is that Michigan has a skilled work force John Hobe, President, Olofsson Corporation in Lansing said, "We depend on our people to make decisions in the production process. Most have the equivalent knowledge of high-level university engineering graduates" ■ With that, plus a lot more going for us, the machine tool industry in Michigan can only get better. So for more information, call (517) 373-8495 or write Doug Ross, Director, Michigan Department of Commerce, 525 Ottawa, Lansing, MI 48909.

OUR MACHINE TOOLS HAVE COME RIGHT ALONG WITH THEM.

M!CH!GAN
The future. We're making more of it here.



Readers Report

caution. Over the last century, there have been many examples of corporate leaders, entrusted with a long-term mandate, who fall far short of their grandiose plans.

Joel N. Morse
Associate Professor of Finance
R. G. Merrick School of Business
University of Baltimore
Baltimore

PRODUCT LIABILITY LAWS HAMSTRING INNOVATION

Your Innovation in America issue made an important contribution to targeting the reason for America's lack of product leadership. But one aspect of the issue was overlooked.

The role U.S. product-liability laws play in inhibiting product development and marketing is substantial. Excessive litigation costs and inequitable liability laws that are different in all 50 states (a priority in the European Community is to adopt a uniform code by 1992) discourage further innovation by American manufacturers. No matter how much more creative we become, we continue to handicap ourselves by subjecting our innovators to enormous liability risks.

This is another example of how efforts to improve America's competitiveness need to begin at home. In this case, the place to start is in Congress, which needs to act before "Made in America" becomes an endangered slogan due to our own laws, not just our competitors.

S. J. Tweedie
Chairman
Product Liability
Coordinating Committee
Washington

THE FIRST HOME IS THE HARDEST

I think your statement that it's a mistake to help first-time homebuyers with federal subsidies through tax exemptions misses the mark ("Housing: Help the poor, not the middle class," editorials, July 3).

If it's good public policy to encourage home ownership, a view that appears to be widely accepted in the U.S., the way to do this is to provide assistance preferentially to the first-time buyer. The grotesque feature of the present tax exemption of interest on home mortgages is that it applies even to luxury homes. What is really needed now is a much lower limit on the dollar amount of a mortgage that is tax-exempt, a limit certainly no larger than the average price of a home, and possibly limited to first-time buyers.

It's unlikely that there is much public



Can you find the rich, robust Colombian export in this picture?

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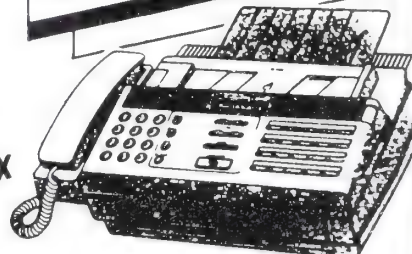
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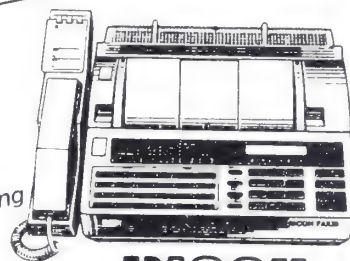
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Readers Report

support for the total elimination of the tax exemption for home mortgage interest, but there must be an overwhelming majority of Americans who object to having their tax dollars used to subsidize luxury homes.

F. S. Johnson
Dallas

WHICH CAME FIRST, THE COPYRIGHT OR THE MARKET?

As an attorney who has practiced intellectual property and computer law for many years, I take exception to the alarmism in your editorial on software copyright protection ("Don't use copyright to shackle software," Editorials, May 29). It tries to counter the hype about certain pending lawsuits. But in protesting the breadth of some of the claims made in court and out, BUSINESS WEEK itself sweeps too broadly.

Your editorial obscures a critical difference between arguments in litigation documents (and the hype in press releases) and the ultimate holdings of the courts. What counts are not the litigants' arguments but what the courts say. In numerous copyright cases, court holdings have applied the law, correctly for the most part, to uphold some claims for software protection and to deny others—depending on the facts of the particular cases.

You say that "the market is a far better mechanism [than copyright] for rewarding and protecting innovation," and "copyright law simply doesn't fit software." But you have it backward on both scores because you ignore some central points:

It's copyright, not the marketplace, that "establishes a marketable right to the use of one's expression," as the U. S. Supreme Court has said.

Congress has stated that computer software is protected under the same copyright principles that protect other works of authorship.

In short, the marketplace for software predicated on the existence of healthy copyright protection.

Morton David Goldberg
Schwab Goldberg Price & Dannay
New York

LIVING ZAIRE IS DUE

In response to your article on Zaire ("Peacemaker" Mobutu is under fire," International Business, July 10), I would like to present the views of the government of Zaire.

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Readers Report

obutu to be the first African head of state to visit him is proof of the strength of our relationship.

Zaire is working to correct its past mistakes. The United Nations cited Zaire for its commitment to improving its human rights record. We are a long way from the ideal—but we are on par with our fellow developing African states, and more important, we are genuinely making progress.

Zaire, with the help of bilateral and multilateral assistance, is also working hard to solve its economic problems. The recently signed International Monetary Fund structural-adjustment agreement would put Zaire on the path toward long-term economic development.

We welcome constructive debate concerning the various problems facing our nation. But this debate must put Zaire in context as a state that shares the same political and economic difficulties as the rest of the nations of Africa and much of the developing world. Zaire needs encouragement and assistance in order to meet its great potential.

Mushobekwa Kalimba wa Katana
Ambassador of the Republic of Zaire
Washington

FAX PAPER HAS ITS TOP GUNS, TOO

Cashing in on the fax frenzy" (Inside Wall Street, July 10) gives the impression that there are no national brand names in the fax-paper market. To the contrary, the "big three" are Accufax, Labelon, and Mr. Fax. Accufax and Labelon sell through retailers. Mr. Fax sells directly to fax users.

Steve Ridinger,
President
Mr. Fax
Irvine, Calif.

ONE REASON TO STAY AWAY FROM MUNICIPAL BONDS

Regarding "Munis are evolving into more dangerous animals" (Personal Business, June 19): For the life of me, I could never understand the enthusiasm through the years for municipal bonds, tax-free or otherwise.

For those who touted municipal bonds to me, my reply was always: Have you ever attended a city council meeting anywhere?

Walter H. McNeil
Pikeville, Ky.

Letters to the Editor should be sent to Readers Report, Business Week, 1221 Avenue of the Americas, New York, N.Y. 10020. Fax: (212) 512-6875, telex: 12-7960, Intl. 4998204. All letters must include an address and daytime and evening telephone numbers. We reserve the right to edit letters for clarity and space.

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TRAMMELL CROW, MASTER BUILDER

By Robert Sobel

John Wiley & Sons • 254pp • \$19.95

A DEVELOPER WHO LETS HIS BUILDINGS DO THE TALKING

Dallas is the quintessential Sunbelt city: sprawling, exuberant, and apparently about 20 minutes old. That look is largely the work of one man. The fanciful skyscrapers are his: one with a black glass crown shaped like Darth Vader's helmet, another tower with a hole in its middle. Three miles west of downtown, the same man built the Dallas Market Center, whose 9.2 million square feet of exhibit space and 1,620-room hotel helped establish the city as the wholesale trade center of the Southwest.

Trammell Crow is one of the most prolific and influential developers in America, although few people outside the real estate world know much about him. Crow has always wanted it that way. At least five would-be biographers have tried to find out what makes him

tick and failed to get their guarded, self-effacing subject to cooperate.

Even though Robert Sobel got permission to publish *Trammell Crow, Master Builder*, the book isn't quite the revelation one hopes for. Sobel does a creditable job on the history of Crow's empire. But he does not deliver the enigmatic man himself. We see the Market Center rising out of the ground but catch only reflections of the vision and genius behind it. Readers learn that Crow's early partner, John Stemmons, called him "the wild man," but Sobel never asks Crow to explain the method in his madness. Even the slightly wistful foreword by H. Ross Perot suggests that the book falls short of familiarizing readers with "one of the most charismatic men of our times."

In Sobel's defense, Crow, now 75, may be among the most difficult interviews

around. Despite hints that a fiercely passionate character lurks behind his comfortable-old-shoe demeanor, writers seldom break through. When the topic is himself, Crow grows wary and distracted. I know of one local journalist who watched Crow heave a sigh in mid-interview and lower his head onto his desk, temporarily unable or unwilling to go on talking about himself. Sobel reports that Crow was ambivalent about the book right to the end.

In business, Crow makes a virtue of his reticence. "I believe businessmen would do well to allow some mystery to surround their activities," he says. "I often pay to cultivate an aura of enigma, to swoop down into a meeting in unexpected ways and put people on guard." Crow, still a managing partner though no longer an active developer, is a master at that. Like many entrepreneurs, he keeps his business in his head, makes snap decisions, and leaves his subordinates and associates puzzling over how to execute them.

In real estate circles, he is known as a modest genius, generous to a fault. When Stemmons and Crow split the partnership in 1972, Stemmons wanted \$7 million for his share, and Crow insisted

NORTHWEST

THERE'S AN ART TO ESTABLISHING BUSINESS ROOTS IN TOKYO.

To establish a strong rapport with your Tokyo contacts takes time, patience, insight and more time. A country that considers a 300 year-old bonsai tree an art form takes a little time to understand.

EXCHANGING MEISHI (business cards) is an important formality in establishing a relationship. You go first, with a bow or handshake, and then, your card, presented Japanese side up to assist with



pronunciation and cases where English capabilities are limited. Study the card you receive, repeating the surname, the first name on the card, to be sure you have the right pronunciation. Treat cards with the respect you would bestow upon their owners.

WHERE TO GET YOUR BASIC BURGERS

There's a Hard Rock Cafe in Tokyo if you have the wild craving for fries, and the



quality of the hamburgers is superb.

DO IT YOUR WAY

The nightclub can be more important than a meeting, so you'll probably be invited to one. The hottest thing is "Kara-oke." Music and images play on a video system and you sing along into a microphone. Do not decline an invitation to sing or you'll be rejecting your host. Most songs are Japanese, but don't panic—"My Way" is always available.

 **NORTHWEST AIRLINES**

that \$8 million was a fairer price. Crow gave in only after a long, mutually incomprehensible tug-of-war.

As a developer, Crow's most important operandi was to form partnerships with young real estate fast-trackers. They provided the leasing hustle in Memphis, Tampa, San Francisco, and elsewhere. Crow provided capital, lending contacts, and whatever advice the Young Turks asked for. Crow describes this interpersonal magic: "These people aren't be working for us but rather for themselves with . . . Become an owner and things improve."

Naturally, this strategy is fraught with risk. Partners, like houses, must be chosen with extreme care. Crow picked his people intuitively, and he wasn't always correct. The book doesn't tell us how he overcame the occasional betrayals. Similarly, in the mid-70s, when the company had outgrown its entrepreneurial style, Crow turned day-to-day operations over to administrators. Sobel handles this as a purely intellectual decision. In real life, Crow doesn't always succeed in keeping his



cool. People who have seen him in the full flush of righteous anger describe it as a terrifying experience. Sobel keeps this side of Crow in total eclipse.

What's left is a sturdy history of one of America's biggest real estate enterprises. Crow planted his flag on the skylines of Sunbelt cities from Florida to California. Sobel does give us a glimpse of the man's business style. Crow gave up nothing when he sat down at the negotiating table to close a deal, but he

never fell into the modern trap of seeing real estate as a mere financial transaction. To Crow, real estate is a service business built on carefully nurtured relationships between owner and tenant. When pressed for the secret of his success, Crow ascribes it to love: He loved his work, he loved his partners, and both flourished under his care. But Sobel makes clear that savvy had plenty to do with it, too.

While some of its passages bear the unmistakable mark of committee English, on the whole Sobel's book is very readable. Still, it does not fulfill the unspoken promise of

an authorized biography. Sobel kindly skips over Crow's recent problems with hotels—a particularly overbuilt corner of real estate—and with the Infomart, a computer trade fair that opened in 1983 just as the personal computer industry entered a shakeout. But while readers learn what Trammell Crow did and how, the who and why remain an enigma.

BY TODD MASON

Dallas Bureau Chief Mason has covered Trammell Crow for seven years.

Before you go, dig out some of your old records and practice up.

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PLASTIC PUZZLE: WHY RATES FOR CREDIT CARDS DON'T GO DOWN

BY ALAN S. BLINDER



How can a practically unregulated and unrestricted industry keep making 'monopoly profits?' Maybe consumers put up with high interest rates in the deluded belief that they'll never get stuck paying them

During the 1980s, the interest rate charged on credit-card borrowing remained stubbornly fixed around 19% even as open-market interest rates tumbled. Some observers concluded that banks must have been conspiring against the public to reap extraordinary profits. Congressional hearings were held, and several bills to regulate the industry were introduced. Economists always found the conspiracy theory implausible. How could there be "monopoly profits" in an unregulated industry with more than 4,000 companies, to which entry is virtually unrestricted, and where competition is nationwide and apparently vigorous?

I always found that argument convincing, but the economists' position fails to explain the unyielding rates. In a competitive market, the price of a service should approximate the cost of providing it, plus a normal profit. But the one component of costs that outsiders can observe—the banks' cost of raising funds—fell drastically from 1981 to 1986, and credit-card interest rates barely budged. To believe that high lending rates reflected high costs, you have to believe that noninterest costs in the credit-card business rose just as interest rates fell. Quite a coincidence.

Now, research by Professor Lawrence Ausubel of Northwestern University's Kellogg School of Management finds that this unlikely coincidence never occurred. Instead, the credit-card business became extraordinarily profitable when market interest rates declined. Ausubel studied several sources of data on bank revenues and costs. Some of the major credit-card-issuing banks responded directly to a mail questionnaire he sent out. A number of others had filed public reports with either the Federal Deposit Insurance Corp. or the Securities & Exchange Commission. All of these sources led to the same startling conclusion: Since 1982, the pretax return on equity among the 50 largest credit-card issuers has typically exceeded 60% per year and often surpassed 100%.

NO CONSPIRACY. Accounting profits are notoriously unreliable guides to true profitability, so Ausubel augmented these figures with another fascinating data source. Occasionally, a bank sells part or all of its credit-card business to another bank. If credit-card lending is unusually profitable, such accounts should sell at a premium over face value. That is, \$100 million in outstanding credit-card balances should sell for more than \$100 million. He located 10 such trades for which the selling price was publicly disclosed. In each case, the accounts sold at a premium; the average premium being 17%. This suggests that

the extraordinary profits are real, not an accounting fiction.

How can such high profits persist in a seemingly competitive industry? The conspiracy theory cannot be right: There are simply too many banks in the business. Although the Visa and MasterCard networks dominate the industry, they control only the fees that merchants pay. The interest rates and membership fees that consumers pay—which are the major sources of bank revenue—are set by each bank. Banks are free to compete on price and occasionally do. And there is absolutely no evidence of collusion.

So banks must deem it unprofitable to seek new business by lowering finance charges. But why? Retailers compete by cutting prices; so do banks—in the non-credit-card business. What is so different about credit cards?

EVIDENCE. Ausubel offers a clever, though speculative, explanation. Suppose there are two types of credit-card borrowers. Type B customers plan to borrow regularly on their credit cards and therefore seek out banks with lower interest rates. But a rational person willing to pay 19% for credit is probably a bad risk who cannot obtain cheaper sources of credit. Banks may not want such customers. Type A customers are creditworthy and want credit cards only for convenience. They plan to pay the bills on time but often fail to do so, incurring accidental finance charges. These are the customers that banks prize. But, since Type A customers do not plan to borrow, they may not be attracted by lower interest rates. If so, a bank that lowers its finance charge may find itself gaining mostly Type B customers—and suffering large loan losses.

At least one piece of evidence supports this idea. Industry data show that 75% of active credit-card accounts are incurring finance charges at any moment. Yet a University of Michigan survey found that only 27% of consumers say they "hardly ever" pay their credit-card bills in full, while 47% say they "nearly always" do so. Either the survey is way off or, as I believe, a lot of consumers are deluding themselves.

The credit-card market, then, seems to fail to do what competitive markets are supposed to do: deliver the goods at the lowest possible price. Is regulation therefore called for? Probably not. The banks possess no monopoly power and appear to be competing for business in the ways that work best. If the market functions poorly, it may be because careless consumers are handing bonanzas over to banks. The government should not ban banks from receiving gifts. It should offer the borrowing public that should not be offering them.

ALAN S. BLINDER IS THE GORDON S. RENTSCHLER MEMORIAL PROFESSOR OF ECONOMICS AT PRINCETON AND AUTHOR OF *HARD HEADS, SOFT HEARTS*

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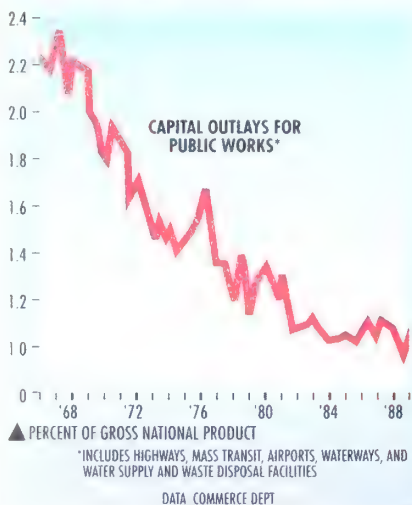
BY GENE KORETZ

CRUMBLING ROADS AND BRIDGES: THEIR HEAVY TOLL ON THE ECONOMY

Simply cutting the budget deficit and raising private investment is not enough to enable America to regain its competitive edge. That's the message recently delivered to Congress by Washington's Economic Policy Institute and signed by 327 economists, including six Nobel laureates. Unless the nation finds ways to boost public investment significantly, they say, America's future prosperity will be increasingly at risk.

Public investment, of course, includes spending on human capital, and economists appearing before the Joint Economic Committee stressed the need to

A SHARP SLOWDOWN IN INFRASTRUCTURE SPENDING



raise outlays on education, training, and child welfare. But some of their more telling testimony concerned the economic implications of the shortfall in infrastructure investment.

Though the problem isn't new, its cumulative effects are escalating. Over the past two decades, capital outlays for public works as a percent of the gross national product have declined sharply, from about 2.3% to around 1% (chart). At the same time, public-works capital spending as a percent of private capital spending has been halved. As a result, the stock of infrastructure per worker has fallen, even as the private capital stock per worker has continued to climb.

The signs of this slowdown are abundantly apparent—in deteriorating roads and bridges, decaying mass-transit systems in older cities, inadequate water-

supply systems and solid- and hazardous-waste facilities, and increasing congestion in air travel. To many Americans, these problems spell discomfort and inconvenience. But evidence is growing that they have also had a major impact on the economy.

A 1987 study by economist David A. Aschauer of the Federal Reserve Bank of Chicago, for example, found that a given increase in public-infrastructure investment—by lowering the costs of private business and thus raising its rate of return—actually stimulates four to seven times as much private investment. And more recent work by Aschauer offers evidence that the declining rate of growth of nonmilitary public investment may in fact be largely responsible for the disturbing slowdown in the nation's productivity growth.

If this thesis is valid, it should be borne out by international data on productivity growth and infrastructure investment. And that, in fact, appears to be the case. Aschauer notes that among the Group of Seven countries, those that spend the most on public investment have had the highest productivity growth, while those that spend the least have had the lowest. From 1973 to 1985, for example, Japan invested about 5.1% of gross domestic product in public facilities and achieved productivity growth of 3.3% a year, while U.S. public investment averaged 0.3% a year and its productivity gains were just 0.6%.

GREENSPAN STILL HAS A CHOKE CHAIN ON THE MONEY SUPPLY

Watch what Alan Greenspan does, not what he says," advises economist Nancy R. Lazar of C. J. Lawrence, Morgan Grenfell Inc. Despite Greenspan's testimony before Congress that the Federal Reserve Board has eased in recent months and is more concerned about the risk of a recession, Lazar argues that the "Fed is still hanging relatively tight." The key sign, she says, is the 9.25% rate on Federal funds, the rate charged on interbank loans, which is still well above money-market yields and some 40% above its level a year ago.

Lazar concludes that the Fed wants to wring more inflation out of the economy, notwithstanding its recessionary concerns—a view shared by economist Gert von der Linde of Donaldson, Lufkin & Jenrette Securities Corp. Although the latest numbers on inflation are favorable—producer prices dropped in June, and consumer prices rose a modest 0.2%—von der Linde points out that the

two indexes are still up at 8.5% and 5.9% annual rates since December, 1988. "One month of slowing inflation is not enough to prompt the Fed to ease aggressively," he says, warning that the market is seriously underestimating the chances of a hard landing.

HOUSING STARTS: ONE MONTH DOES NOT A REBOUND MAKE

June's 7% jump in housing starts after four straight monthly declines doesn't mean that the housing market is about to rebound strongly, says economist Maury Harris of PaineWebber Inc. He points out that the June pickup occurred in the vacancy-plagued multifamily sector, while starts for single-family dwellings continued to fall. More important, Harris notes that mortgage rates have not fallen as much as market interest rates. A weekly survey of 2,000 lenders by HSH Associates of Butler, N.J., for example, indicates that the number of offering adjustable-rate mortgages with preliminary "teaser rates" below the one-year Treasury-yield index declined from 663 at the end of February to just 95 in mid-July. Rates for fixed mortgages have also eased less than yields on Treasury bonds, adds Harris.

READING THE TEA LEAVES OF PRODUCTIVITY

When nonfarm productivity declines on a year-over-year basis, the economy almost always slips into recession, observe economists Stan Shipley and Robert J. Barbera of Shearson Lehman Hutton Inc. And in the first quarter, nonfarm productivity fell 0.2% from its year-earlier level, marking the first such decline since the last recession, except for a brief dip in early 1987.

The two economists note, however, that while such declines are usually centered in the manufacturing and construction sectors, manufacturing productivity was up 3.5% in the first quarter over 1988. Instead, the big drag on productivity is coming from the services sector, where demand has slowed more than employment. Thus, with the economy slowing sharply, they predict that services, not manufacturing, will feel the brunt of any retrenchment. "Service-based industries, notably retailing," they warn, "are the ones most likely to lay off employees and consolidate their operations over the next few quarters."

SAGGING GROWTH IS THE WORRY OF THE WEEK

Fears of a recession have moved back into the limelight, pushing inflationary worries to the wings—at least for now. Federal Reserve Board Chairman Alan Greenspan indicated that shift during his midyear speech to Congress. Certainly, the economy's growth rate in the second quarter was one of the lowest in this expansion, while inflation—as measured by most price indexes—has begun to moderate.

The latest slew of data—including jobless claims and new durable-goods orders—suggests that business has started the third quarter at a sluggish pace. So, inflationary pressures from tight capacity and higher wages should continue to abate. Weak demand has already helped slow the pace of employment-cost growth in the goods-producing side of the economy.

Greenspan is still seeking a "delicate" policy balance that would encourage a soft landing for the economy. So any further easing of interest rates this summer will most likely be gradual. The big danger is even weaker demand. Then, companies may find themselves with excessive inventories and unwanted employees.

The recent rise in new claims for state unemployment-insurance benefits shows that the economy has already slowed too much for some workers. Jobless claims have been drifting steadily upward since early May (chart). Businesses are becoming more cautious in their hiring practices. And slower job creation would dampen income growth, putting more downward pressure on already-weak consumer spending.

UNCLE SAM WOULD GET HURT IN A DOWNTURN

Recession isn't good news for anyone. But it would be especially tough on the federal government. The Bush Administration expects the economy to expand by

7% in 1989 and 2.6% in 1990. That's a key assumption behind its latest deficit projections. The Administration is forecasting a fiscal 1989 deficit of \$148.3 billion—which may not be very far off the mark, even if growth slows. Already, in the first nine months of the current fiscal year, the government has accumulated a \$105.5 billion deficit, helped in part by the \$7.8 billion surplus posted in June.

But a recession would knock the pins out from under the government's rosy forecast of a fiscal 1990 deficit of \$99 billion to \$105 billion. If a downturn hits, tax receipts

would drop, while demand for unemployment benefits and other entitlement programs would skyrocket.

For now, however, the outlook is good that the economy isn't headed for a crash. The recent surge in car sales suggests that consumers may be willing to shop again. New, domestically made cars sold at an annual rate of 7.8 million in mid-July—the third highest 10-day selling rate for this year.

But the Fed will encourage a soft-landing scenario only if inflation remains at its current moderate pace. The behavior of labor costs will play a big part in keeping future price rises small.

WAGES CREEP UP—AT LEAST IN SERVICES

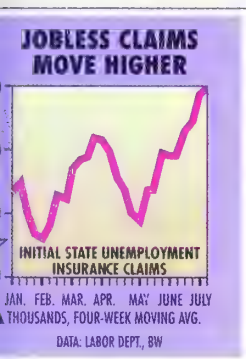
For private industry, growth in employment costs has been relatively stable. Wage and benefit costs in the second quarter increased 4.5% over the past year, the same pace as in the previous four quarters.

But that flat reading masks a split between wage growth and benefit costs. Wages—about three-quarters of all compensation—have edged upward. In the second quarter, wages for all workers rose 4.1% from their year-ago levels, up from 3.7% in the same period of 1988.

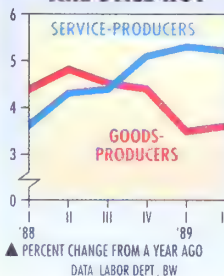
The growth in benefits, on the other hand, has slowed to a 5.6% yearly rate in the second quarter, down from a 6.4% pace in the 12 months ended in June, 1988. But that's only because this year's growth in such costs no longer reflects the hike in employers' Social Security taxes that started in January, 1988. Other benefit costs have been rising quickly, most notably health insurance and some types of bonus payments.

All of the acceleration in wages and benefits has been in the service sector (chart). Employment costs there increased 5.2% over last year. Such a jump is not surprising. For one thing, demand for services remains strong, and companies are still adding workers at a healthy clip. For another, some qualified workers, especially in health care, are getting harder to find, and that has boosted compensation.

Over the past year, wages for service workers have risen 4.7%, faster than the 3.7% yearly rate of the second quarter of 1988. Higher commission rates for sales personnel were a big factor behind the boost, but an acceleration in wages for workers in health care and finance also contributed. Meanwhile, benefits for service work-



WHERE LABOR COSTS ARE STILL HOT



Business Outlook

ers have grown by 6.7%, up from 5.8% a year ago.

The rapid acceleration in service labor costs is in stark contrast to the cost slowdown in the goods-producing sector. Employment costs there rose just 3.6% in the second quarter, down from the 4.8% pace of last year.

Again, last year's Social Security tax hike caused the deceleration in benefit gains to 4.5% in the latest four quarters, compared with 7% last year. In particular, benefit costs for factory workers were up 5.3% this year, down from the previous year's 7.6% rate.

BUT AT THE FACTORY, PAY HIKE SLACK OFF

Wages, too, slowed in this sector. Pay in the second quarter was up at a yearly rate of 3.2%. Last year at this time, wages were increasing by 3.8%. Manufacturing wage gains slowed to about the same degree.

Slower gains in labor costs mean inflation on the goods side of the economy should lessen. Moreover, productivity gains will probably match at least half of the 3.9% yearly compensation increase in manufacturing. So factory unit-labor costs probably grew at a relatively moderate rate in the second quarter.

On the service side, though, the rapid pace of benefit and wage growth will surpass any gains in output per hour. That's because productivity increases have been so meager in this sector. As a result, inflation in the service half of the consumer price index will not improve as quickly as in the goods sector.

A BULGING ORDER BOOK? FAT CHANCE

For manufacturers at least, employment cost growth should remain moderate as long as weak product demand lessens the need for more workers. This trend started to show up in the second quarter.

And the latest report from the durable-goods sector indicates that growth in the third quarter may also be subdued. That will reduce still more the inflationary pressures on capacity and wages in manufacturing. But

it also raises the chances of an economic downturn.

New orders for durable goods advanced a small 0.3% in June, to \$124.1 billion, hardly reversing the 4.4% plunge that bookings took in May. In fact, new hard-goods orders have gone almost nowhere during the first half of this year.

In June, ordering patterns were mixed. Electrical and nonelectrical machinery producers saw increases in new orders, while demand for transportation equipment and primary metals slipped. Orders for capital goods—a big export item and a harbinger of future equipment spending—rose a small 0.5%, after dropping 7.7% in May.

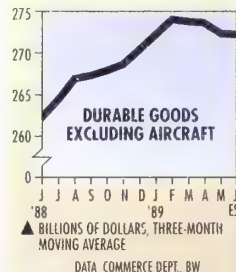
The aircraft industry remains a key factor in the durable-goods sector. The large price tags for airplanes contribute greatly to the seesaw pattern of total orders. And because aircraft have such a long lead time between ordering and shipment, the huge demand for new aircraft over the past year has greatly increased the overall volume of unfilled durable-goods orders.

In June, total unfilled orders increased 0.5%, to \$470.2 billion, but again, most of that gain was in aircraft and parts. For other hardgoods manufacturers, unfilled orders have been falling since the beginning of the year (chart). In particular, the backlog for electrical machinery has dropped sharply since February.

Since last June, unfilled durable-goods orders have grown by a strong 11.1%. But excluding demand for transportation equipment—most of it aircraft—the backlog is up by just 1.3%.

Plainly, the big aircraft producers and their suppliers have little to worry about in the coming quarters. But unless demand strengthens, the next few months could be turbulent for other manufacturers.

UNFILLED ORDERS GROW WEAKER



THE WEEK AHEAD

NAPM SURVEY

Tuesday, Aug. 1

The index of business activity compiled by the National Association of Purchasing Management probably dropped to about 48.5% in July from its June level of 48.8%. This third consecutive monthly decline would indicate that the nation's industrial sector continues to slow into

CONSTRUCTION SPENDING

Tuesday, Aug. 1, 10 a.m.

Spending on building projects was most likely up a small 0.5% in June, after rising 1.3% in May. The May gain was entirely concentrated in public works. In June, housing starts were up, and other

construction activity probably rebounded after a rainy May delayed some projects.

FACTORY INVENTORIES

Wednesday, Aug. 2, 10 a.m.

Manufacturers probably increased their inventories by about 0.4% in June. Stockpiles grew by a faster 0.6% in April and May. But in June, factory output was flat while shipments likely fell 0.5%, suggesting slower inventory accumulation for the month.

NEW SINGLE-FAMILY HOME SALES

Wednesday, Aug. 2, 10 a.m.

New homes probably sold at an annual rate of 605,000 in June, as housing remains a drag on the economy. In May, new homes sold at a 613,000 yearly rate.

LEADING INDICATORS

Thursday, Aug. 3, 8:30 a.m.

The consensus is that the index of leading indicators fell 0.3% in June. That would mean that the index has fallen in four of the past five months—a pretty good signal that economic growth will be slow for the next few quarters.

EMPLOYMENT

Friday, Aug. 4, 8:30 a.m.

Most economists expect that about 150,000 new nonfarm jobs were created in July—the smallest gain in almost two years. In June, 180,000 jobs were added. Most forecasters also project that the July unemployment rate will rise a notch, to 5.3% from 5.2% in June.

There are 17 private islands for sale in the Caribbean.



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Barbareta Island
White Island

Cayo Lobos
Isla del Faro
Cayo Palominos
Cabbage Cay

Tortugas Island
Pelleu Island
Buck Island

Calvigny Island
Roto Cay
Little Monkey Cay

Greater Monkey Cay
Meeks Patch Cays
Isla de Pedro Gonzalez

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AUGUST 7, 1989

HELLO, REALITY CALLING

SLOWER GROWTH IN CELLULAR HAS INVESTORS CASHING OUT

There's been no stopping the blast-off in cellular phones. Subscriber growth has soared, and that has kept carriers in some areas scrambling to keep up with demand. While most companies have yet to pocket a nickel in profit from all the action, cellular stocks have been scorcher. Since January, they've surged as much as 90%.

Suddenly, there's static on the line. Since mid-June, stocks of U.S. cellular operators have fallen back at least 18% (charts). And in Britain, Racal Telecommunications PLC, the leading domestic cellular player and one of the world's most profitable carriers, has seen its shares plummet 31% since early June.

Has the golden goose of contemporary investments turned barren? Don't bet on it. By all accounts, cellular's fundamentals remain sound. Notes Justin L. Jaschke, vice-president of cellular development at Pacific Telesis Group: "The underlying assumptions are stronger than ever."

CAR-LESS CELLULAR. But there's a bell ringing, and it has the distinct sound of some of the industry's earlier investors cashing out. In other words, the smart money senses that values, for a spell anyway, are peaking. They see a host of worries—some justified, some not.

For starters, there's growing concern that the industry, which enjoys an extremely lucrative duopolistic system of two carriers per market, may eventually be opened up. More worrisome, some investors are fretting that the cellular companies' power to price their services without interference from regulators may one day be curtailed. There's also the happy problems some big-city outfits figure to be suffering soon: So much demand that they'll be forced to invest vast new sums in a switch-over to digital equipment. That could squeeze profits. And then there's the longer-term specter of new, competing technologies, such as

metropolitan portable phone system for pedestrians. If such systems grew, they would cut into cellular revenues.

It all adds up to this: For the first time since they took off in 1986, cellular stocks have discovered gravity. Many investors are taking a harder look at how each player is likely to perform. They're betting less on gut and more on a cold calculation of the industry's potential—and each individual company's place therein. In the future, as John E. DeFeo, president of U. S. West NewVector Group Inc. observes, investors "will look more at fundamentals."

OPENING AIRWAVES. Investors first got the jitters late in June when the British government decided to license at least two new rivals to the existing duopoly in Britain. The news promptly caused Ral's share price to dive.

Then, on July 20, Wall Street got infected. The virus: reports that Congress was at work crafting a bill to allow a few cellular outfit to compete against the existing two companies in each service area. In fact, House Commerce Committee Chairman John D. Dingell (D-Mich.) introduced a bill that would

open some of the government's restricted radio frequencies to commercial communications carriers. The bill, which didn't specify what the frequencies could be used for, is seen as a long shot. But even if it were to pass, the Federal Communications Commission would take at least three years to locate even a portion of the newly opened spectrum. Just the same, U. S. cellular stocks sank about 10% in a one-day selling frenzy.

More legitimately worrisome are emerging technologies that could cut into cellular's dominance. Britain, for instance, will soon begin a new cordless phone service called Telepoint, or CT2. It uses low-power transmitters stalled in such pedestrian-heavy areas as train stations. It will enable callers carrying hand-held phones to place outgoing calls and charge their regular phone accounts. While

callers couldn't receive calls and roaming wouldn't be easy, the units are cheaper and smaller than cellular phones, and calling charges should be near regular phone service—a lot less than high-priced cellular.

In time, Americans may be using a Telepoint-like service. On July 11, the FCC held its first public forum on CT2. It attracted a standing-room-only crowd. Already well along on a similar system is Bell Communications Research, the regional Bell companies' research unit. It has developed prototypes of a two-way, hand-held portable phone that, while not as sophisticated as a cellular system, can pass calls among several transmitters.

But the biggest single technical headache cellular operators are suffering now is capacity. In mega-metropolises such as Los Angeles and New York, carriers can't handle the load of calls. That makes open lines scarce, and the cellular operators are being forced to accelerate by two years their plans to move from analog to digital phones. A digital system can carry up to eight times as many calls in a given area. Ultimately, going digital will make cellu-

lar far more efficient and lower prices. By 1992, Silver Spring (Md.)-based analyst Herschel Shostek reckons, digital technology will help to lower average prices by up to 30%. But more immediately, the move to new equipment could be disruptive—and expensive. Beyond their capital expenditures, carriers may have to subsidize the price of new digital phones to get customers to switch.

And that's not all. Regulators may force cellular services to cut their prices before they can lower their costs—a demand that would obviously pinch profit margins. As things stand, most carriers enjoy the freedom to charge what they choose for their service. But California regulators are considering a proposal that by one estimate could trim prices up to 20%. That would be an industry first, but it may not take long for the idea to catch on with politicians elsewhere.

All of these worries and potential problems may be one reason why other big, smart cellular investors—the Baby Bells, to take seven choice examples—haven't joined the bidding for LIN Broadcasting Corp. McCaw Cellular Communications Inc., the cellular business' biggest

operator, has offered \$5.9 billion for LIN and its alluring properties in Los Angeles, New York, and other prime locales.

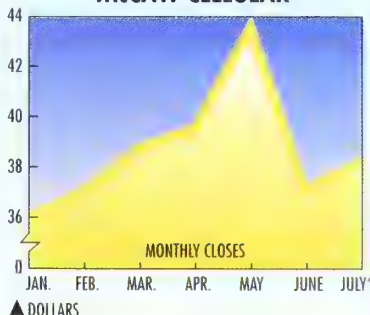
The price may simply have gotten too high. Much of McCaw's empire was built for under \$50 a POP—industry lingo for potential customer. At \$275 a POP, its bid for LIN doubled the past record, set when British Telecom paid \$1.5 billion for a 22% stake in McCaw. The lack of interest in the LIN bid, Hanifen, Imhoff Inc. analyst Alfred J. Humphries says, "takes the wind out of extremely high valuations."

No question, the cellular business has established itself as a growth industry. But given what they've paid for cellular stocks, investors increasingly wonder if cellular can grow fast enough.

By Robert D. Hof in San Francisco, with Mark Marcum in London and John J. Keller in New York

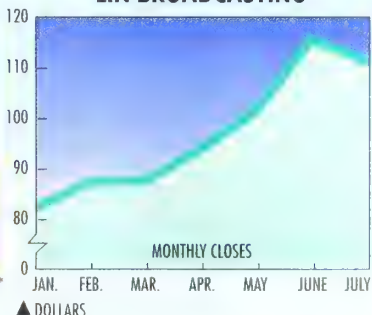
FOUR POPULAR CELLULAR STOCKS

McCAW CELLULAR



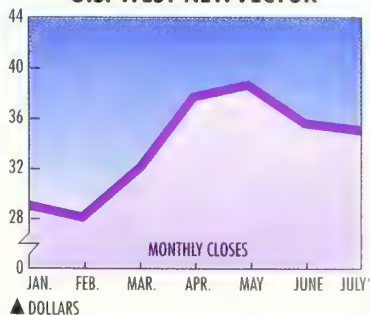
Carries more subscribers than any other company—but it's highly leveraged, with \$1.9 billion in debt

LIN BROADCASTING



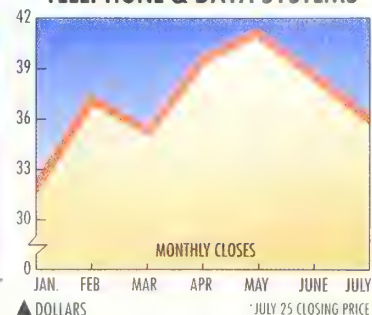
Jewel properties in metro New York and Los Angeles. Little debt, the most profitable carrier. Strong cash flow

U.S. WEST NEWVECTOR



Fat customer base, only Baby Bell cellular company to go public. Turned cash-flow positive in second quarter

TELEPHONE & DATA SYSTEMS



Operates in 29 states, is spending more than \$100 million to pursue rural markets, but it isn't profitable

DATA: MORAN & ASSOCIATES INC., BRIDGE INFORMATION SYSTEMS INC., BW

HOW TIME WARNER WILL LOOK WHEN THE FOG CLEARS

Strong fundamentals and sterling assets may overcome all that debt

The fight is over. Time Warner Inc. is on the Big Board, with thousands of shares changing hands every day. Co-Chief Executives Steven J. Ross and J. Richard Munro and President Nicholas J. Nicholas Jr. can see on their Quotron screens whether investors believe that the merger of Time Inc. and Warner Communications Inc. was worth all those late nights and millions in attorneys' and bankers' fees. On July 24, they defeated Paramount Communications Inc.'s \$12.2 billion bid for Time when the Delaware Supreme Court upheld a lower court decision allowing Time and Warner to merge without a shareholder vote (box). Paramount CEO Martin S. Davis has walked away, withdrawing his \$200-a-share offer.

For now, investors are in a fog. The merger plans left several important questions unanswered. Company executives also haven't yet provided much concrete evidence to support their claims that Time Warner's plans will give shareholders more value than they would have received by taking cash from Davis.

Nevertheless, the new entertainment giant is likely to hit the ground jogging, if not running. Time Warner stock could

trade around 145 by the end of the year, which would be a 4% improvement over the 139½ it commanded at the close of trading on July 26. That price is slightly more than the one predicted by several leading Time Warner watchers, who figure the stock will go for about 140. The

profit in the period. The second half should look even better as the hit movie *Batman* makes its mark.

Time Warner executives also have good reason to try to boost their stock. That would be one effective way to end the lingering speculation that Time Warner remains a takeover target. The company is already broadly hinting that it will sell

some assets to pare down its debt—a move that would please many shareholders. And Time Warner could build momentum for its stock by announcing some deals overseas. Even with up to \$15 billion in debt, the company could easily form joint ventures with European TV programmers interested in Warner's film and TV libraries and production capacity.

The investors who are trying to figure out what Time Warner is worth are asking other basic questions. And some likely answers point to solid improvement in the stock price by the end of the year.

How many shares will Time Warner have? This question, which could dramatically affect the trading price, won't be answered until Time determines the so-called back end of its offer for Warner. Time agreed to pay \$70 in cash for more than half of Warner's shares and promised the remaining investors an equivalent package of cash and securities. Although Time Warner could keep debt down by loading the back end with stock, the company is unlikely to issue more than 11.6 million new shares—giving Time Warner a total of about 70

TIME WARNER: WHAT'S IT WORTH?

Selected assets and liabilities	Mabon Nugent	Paul Kagan Associates
	Dollar figures in billions*	
CABLE SYSTEMS	\$11.1	\$12.4
RECORDS & MUSIC PUBLISHING	5.0	6.0
MAGAZINES	4.7	4.7
FILM & TV STUDIO	3.6	4.3
CABLE PROGRAMMING	1.8	2.1
BOOKS	1.6	2.4
CASH & INVESTMENTS	2.4	4.6
DEBT	-14.3	-14.0
TOTAL BREAKUP VALUE	15.9	22.5
BREAKUP VALUE PER SHARE	210	301
STOCK MARKET DISCOUNT	33%	40%
ESTIMATED STOCK PRICE	140	180

*Except per share amounts

DATA: MABON, NUGENT & CO., PAUL KAGAN ASSOCIATES INC.

range of estimates extends from \$126 to \$180 a share.

Time Warner begins with strong fundamentals. Time is having a good year, with 11% growth in operating income in the first half. And Warner is having a great one, with a 73% jump in operating

PONDERING TIME'S FATE OVER CHICKEN GUMBO

Monday, July 24. By 9:45 a.m., the three justices of the Delaware Supreme Court were robed and ready. Justice Henry R. Horsey, the senior judge on the panel, had been up since 4 a.m. He rarely sleeps well before big hearings, he says. And he had to drive about 50 miles to the huge courtroom 301 in the Wilmington Public Build-

ing. There, for the following two hours, Horsey and his fellow justices Andrew G. T. Moore II and Randy J. Holland would hear Paramount's last-ditch plea to block Time's purchase of Warner Communications.

Although they'd decided other megatakeover battles, the Time-Warner-Paramount tussle was a big deal. For the first time, a television camera in the courtroom caught their every move—and carried them live on CNN. Justice Moore even had his 78-year-old mother-in-law, Ann Dawson, keeping an eye on him from the public gallery. Of all Moore's cases, Dawson says she finally came out for this one because she found it so "fas-

cinating." (Moore says it's the first Dawson actually conceded that he was for a living.)

As is customary, the judges didn't discuss the case until the hearing ended at past noon. Then, they chatted quietly on the bench before saying they'd hear a statement at 2 p.m. Quick as that, they were out the door.

'TOO PUBLIC.' The three justices headed for the cafeteria in the new Hotel duPont for lunch. As Time's fate hung in the balance, they ate seafood and creole chicken gumbo. They appeared almost anonymous among the attorneys and reporters who were also sitting there. Yet, Moore says, "it was

million. The reason: Time needs shareholder approval to offer more, and many stockholders would be reluctant to dilute their holdings.

How much are Time Warner's assets worth? The consensus estimate of about \$16 billion seems on target. Time Warner's assets include several jewels. Time's dominant magazines—including *Time*, *Sports Illustrated*, and *People*—could easily carry a multiple of 13 times cash flow. The company also has the country's second-biggest collection of cable franchises, which might attract a higher-than-average cash flow multiple of 14 if they were sold. And it's safe to figure that the studio, records, book, and cable programming operations would command at least 10 times cash flow.

How much should the breakup value be discounted to get the likely stock market price? As a solo act, Time fell out of favor with investors and traded at a high discount of about 50%. But the new entertainment-driven company would look more attractive. A 30% discount would be aggressive, yet achievable—Capital Cities/ABC Inc. trades about 25% under its breakup value.

Several analysts who look at the same numbers remain skeptical. County NatWest Securities USA media analyst Lisa Donneson took Time Warner off her buy list. She sees it trading about where it was before Paramount entered the scene—at about \$126 a share. "If anything, Time has a worse balance sheet and a worse P&L statement," she says. What's more, there's less likelihood that a raider will offer shareholders a better deal for a goliath that's heavily laden with debt.

But even the doubters believe that Time Warner's prospects will improve over the long term. Investors might do well by climbing aboard and waiting for the company to show its stuff. But in the nearer term, buyers may be more cautious. In many respects, Time Warner remains a question mark.

By David Lieberman in New York

olic for us to really discuss anything." After having spent more than nine days poring over reams of court documents, the justices took only 30 minutes in chambers to reach an agreement. In that time, they also drafted a four-sentence statement. And by the stroke of 2 p.m., they reappeared on the bench. There, as the packed courtroom waited in a hush, Horsey read the ruling word by word: The justices upheld the lower court; Time could go ahead with its deal with Warner. Thirty seconds later, the justices once more were out of sight, leaving the press—and the stock market—to tell their words.

By Michele Galen in Wilmington

TAXES

THIS SOCIAL SECURITY TAX HIKE WOULD ACTUALLY LOSE MONEY

It's meant to raise revenues but could cost \$2 billion a year

Congress' never-ending search for painless, or at least invisible, ways to narrow the budget deficit is producing some very strange results. Even as the House Ways & Means Committee fought over a tax cut designed to raise revenue, the panel quietly adopted a tax increase on workers and their employers that will cost billions of dollars by the end of the century.

The newest gimmick is a \$1 billion-a-year hike in the Social Security payroll tax, a source that politicians of all stripes once insisted was off-limits in the scramble for new revenues. While all eyes focused on whether the panel would cut taxes on capital gains, Ways & Means on July 12 slipped the Social Security tax increase into a measure designed to raise \$5.3 billion in fiscal 1990. The provision was approved behind closed doors, and no hearings were ever held. Despite President Bush's oft-repeated opposition to new taxes, the Administration hasn't come out against the idea.

The Social Security measure, part of a laundry list offered by Chairman Dan Rostenkowski (D-Ill.), would raise payroll taxes on about 8.5 million relatively well-paid wage-earners. Employer and employee would each cough up an extra \$70 a year.

AN OVERSIGHT. Here's how it works: Each year, the amount of income subject to Social Security tax is raised to keep up with the increase in average wages. Next year, the tax is scheduled to be levied on the first \$50,400 of earnings. But under the proposed rules, the wage calculation would include contributions to certain retirement plans, including the popular 401(k) accounts. That would mean that workers and their employers would have to pay Social Security tax on wages up to about \$51,300.

But that's only half the story. Because Social Security benefits are based on the same formula, the tax hike will also



ROSTENKOWSKI: NEW RETIREES WILL GET HIGHER BENEFITS

mean higher payments for new retirees. By 1995, the extra benefits are expected to exceed the additional revenue. Asked why the committee adopted the measure, a Ways & Means aide says only: "I'm not sure we fully appreciated the outlay impact at the time we did it."

The Bush Administration has been curiously quiet about the Social Security scheme. Kenneth W. Gideon, Assistant Treasury Secretary for tax policy, wasn't shy about saying "no" to some Ways & Means proposals in the private sessions. For example, he turned thumbs down on a plan to raise taxes on snuff and chewing tobacco. But congressional sources say that he did not object to the Social Security proposal. Administration sources say Gideon told the committee he was "troubled" by the plan. A White House spokesman declined to state a position on the issue.

While the politics remain murky, the economic impact of the provision is clear. One congressional source estimates that it "will effectively mean a 2% benefit increase for people who retire beginning in 1990." In the very short run, the scheme would add to the Social Security surplus. Over the next 75 years, however, the government estimates the change would cost the retirement system an average of \$2 billion a year. "We

have a tax increase that generates short-term revenues at significant long-term cost," says Arthur Andersen & Co. partner David M. Walker, a senior pension official in the Reagan Administration.

'FISCAL DODGE.' Analysts are just as concerned about the budgetary implications of the Ways & Means plan. "What this does," says Brookings Institution economist Henry Aaron, "is continue the fiscal dodge. It makes very little sense to pay for interest on the debt and national security with payroll taxes."

Legislators may want to think twice before they enact a Social Security tax increase that offers little or no immediate benefit to those who pay it. Last year, Congress raised medicare taxes on the elderly to finance new catastrophic illness insurance. Although the taxpayers were the program's immediate beneficiaries, the levy set off a storm of protest that lawmakers are still struggling to contain. They shouldn't be surprised if taxpayers rise up in anger again.

By Howard Gleckman in Washington

STRATEGIES

THOSE LITTLE YELLOW BOXES ARE LOOKING A LITTLE PALER

Industry overcapacity is paralyzing Kodak's earnings growth

Ever since Eastman Kodak Co. spent \$5.1 billion a year and a half ago to buy Sterling Drug Inc., Wall Street has worried that the expensive acquisition was diluting strong earnings from Kodak's old standby, its photographic businesses. Now there's a new concern: Those film and paper operations are themselves in a bit of trouble.

Kodak announced on July 24 that it would take a \$225 million charge in the second quarter to account for cost-cutting measures that it plans to disclose next month. Investors, taking the statement as a broad hint that earnings would be even more disappointing than expected, sent the company's stock down 2 1/4 in two days, to 46%.

Much of the problem appears to be anemic revenue growth in the photographic-products group, which kicked in 45% of Kodak's \$2.9 billion in 1988 operating earnings. Although the business conditions that are stalling growth should abate over the next few years, right now "pricing is killing them," says B. Alex Henderson, a photography industry analyst at Prudential-Bache Securities Inc. "What happens to discounting in their film business will determine what happens to earnings."

Volume in most of Kodak's photo products has been strong worldwide. But Henderson estimates that in the U.S., discounts and promotions have pushed prices down 5% in the first quarter—though Kodak has raised prices on many products by 3% to 5% this year (chart). Pricing pressures and currency losses reduced overseas revenues by

10% in the first half, he says. A Kodak spokesman admits that price increases "haven't been enough to cover the increased costs of doing business."

Prices are weak because industry capacity is surging. This year, Fuji Photo



DEVELOPING TANK: POLAROID COULD EAT INTO MARKET SHARE

Film Co., Kodak's largest rival, is adding film production lines to its large paper factory in Tilburg, the Netherlands. Analysts believe film output there will eventually match the output of Fuji's huge Japanese plant, which makes one-quarter of the world's color film. And Konica USA has built a new photographic paper plant in Whitsett, N.C. Kodak itself is expanding its film production capacity in Rochester, N.Y.

Compounding matters, Polaroid Corp. in April introduced One-

Film, a conventional film photographers can use in different light situations. It's targeted at amateurs overwhelmed by the choices offered by Kodak and others. Retailers say it's too soon to tell how OneFilm is selling because advertising and promotion of the product have been under way for only two weeks. But the film—which Polaroid admits it won't sell in Europe because consumers there are "too sophisticated"—has been well received by big U.S. retail chains such as Walgreens, CVS, and Wal-Mart, gaining distribution in 14,000 outlets.

Curiously, neither Kodak nor Fuji has reacted directly to the new competitor. "We're surprised," says one buyer. "Kodak and Fuji should be promoting their film diversity."

SQUEEZED OUT? The crowded field, discounting by both Kodak and Fuji, and sluggish U.S. demand add up to a market that should stay weak through year-end. After that, the picture could brighten considerably, as demand catches up to the industry's new capacity. Ian D. Robinson, president of Photographic Consultants Ltd. in Cambridge, Mass., estimates that worldwide, photographers will take 6% more pictures a year. Ultimately, he figures Kodak and Fuji will be able to achieve economies of scale that will enable them to gain market share through low-cost production. The losers: Smaller competitors, including Konica, 3M, West Germany's Agfa-Gevaert, and Polaroid, whose margins will be squeezed. That's why few analysts expect Kodak to make major changes in its photo businesses.

Kodak's information-systems group—including its Atex and Electronic Printing Systems subsidiaries, as well as its copier-products division—are quite another matter. Analysts expect the bulk of the company's planned restructuring to hit the information-

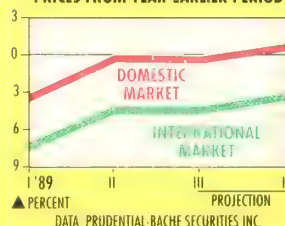
systems companies, some of whose products, they say, are unexciting compared with the competition's and generate operating margins that average just 8%. The total savings from cost-cutting could come to \$400 million a year—double the amount Kodak projected at its annual meeting in May.

But the chances for a third straight year of earnings growth, which Kodak also promised at that meeting, are growing dimmer by the day.

By Keith H. Hammonds in Boston

SNAPSHOT OF A PRICE WAR

ESTIMATED CHANGE IN KODAK'S FILM PRICES FROM YEAR-EARLIER PERIOD



HAS BRUNSWICK GONE OVERBOARD IN POWERBOATS?

bought six companies, and then the industry ran out of gas

Jack F. Reichert has a passion for powerboats. In late 1986, nearly five years into an unprecedented boom in the boating industry, the 58-year-old chairman of Brunswick Corp. snapped up two major boat builders for \$773 million. Eighteen months later, he bought four more for \$78 million. It all made Brunswick the world's largest maker of recreational powerboats and engines while boosting the company's reliance on marine sales from 42% in 1982 to 75%.

But now it looks like Reichert may have gone overboard. For the first time since 1985, unit sales of new boats are expected to dip in 1989, the result of a hike in interest rates earlier this year, bad weather, and consumer fears about a coming recession. Dealers, stuck with too much inventory, plan to cut back orders for next year's models by as much as 20% from record 1988 levels (chart). Says Fred Anshel, an analyst at Jean Witter Reynolds Inc.: "The boat-making industry is sinking."

MAKING A BATH. Brunswick, with a strong cash flow and healthy balance sheet, isn't likely to sink with it. But it's sure to take a dunking. On July 26, the Kokie (Ill.) company announced a 74% plunge in second-quarter net, to \$20.5 million. After six straight years of gains, that's Brunswick's third consecutive quarterly drop in profits. Its newfound dependency on a market that's prone to boom and bust has also battered its stock, which has been underperforming market averages over the past year. Recently, it sank to 15%, a 52-week low.

Brunswick is not the only boat builder making a bath. Outboard Marine Corp., its largest publicly held competitor, on July 20 announced a 75% plunge in its third-quarter earnings. And Genmar Industries Inc., Minneapolis financier Irvin L. Jacobs' privately held boat outfit, says it expects to see flat sales for 1989. But it's Brunswick that faces especially choppy seas. For starters, analysts say it's been stuck with more inventory than its rivals. It's experiencing production delays as it tries to digest its most recent boat acquisitions. Reichert is also trying to calm engine dealers miffed by his recent push to package engines and boats. And Brunswick is still recovering from the first-quarter loss to OMC of a contract, worth \$60 million to \$80 million, for new outboard engines. That as OMC spokesman Wayne E. Jones

boasting: "We are picking up market share even in a down market."

Brunswick is taking steps to ride out the storm. On July 19, it announced it would lay off 4,000 workers, or about 14% of its work force, as it scales back boat production. On June 21, it said it would sell its Industrial Products division, with 1988 sales of about \$150 million. It also may consolidate engine-making capacity among divisions. And to help dealers move inventory, Brunswick's top-selling boat line, Bayliner, has begun offering rebates of up to \$5,000. Sea Ray, the company's upscale brand, has gone even further: It's offering 9.9% financing and rebates of up to \$15,000 on its biggest models.

become an extended slump, he may not get the chance. With its stock trading at roughly half the estimated breakup value, the company could begin to entice raiders. In April, after rumors that Jacobs was buying Brunswick stock, the company unveiled plans to expand its employee stock ownership plan and strengthen other defenses. Reichert denies that was a response to heavy stock trading, adding: "We do not run this company looking over our shoulder."

STORM WARNING. Wall Street mostly dismisses the takeover talk. Analysts maintain that strategic buyers are becoming scarce as the industry appears headed for a major recession. They also say that raiders interested in breakup values are likely to balk at the prospect of what a recession could do to cash flow.

But that didn't stop Standard & Poor's Corp. from warning clients on June 20 of a possible downgrading of \$300 million of Brunswick's debt. S&P cited concerns that Brunswick will accelerate its share-repurchase program and add to its debt load to make itself less vulnerable to takeover. Indeed, the company's decision



LOW TIDE: BAD WEATHER AND CONSUMER JITTERS HAVE KEPT SALES DOWN

Reichert is betting that by cutting operating costs and offering incentives, he can revive retail sales and boost earnings. So far, the rebates appear to be working. Dealers report gains in unit sales of up to 10% since the program began this spring, although many have also cut prices. "We had a lot of lousy weekends," explains William M. Constantine, executive vice-president of Boatland Inc., a Sea Ray dealer with eight locations in New York and Florida. "But the factory rebates have enticed a lot of people to make the move."

Although Reichert says he's prepared to navigate Brunswick's collection of marine businesses through what could

to borrow \$100 million to finance the expanded ESOP helped push its debt from 31% to 40% of total capital.

Reichert points out that Brunswick's debt was higher when it made its first big buys in the boat-building business than it is now. He also maintains that the company will emerge an even more potent force in the marine business as sales pick up. "We are fundamentally a recreational company, and we've been through far many more good years than bad," he says. "Typically, in downturns, the strong get a bit stronger." Now, all he has to do is get more people to share his passion for powerboats.

By Julia Flynn Siler in Chicago



OF CASHIERED EINAR GREVE (LEFT), NEW CHAIRMAN SCHAEFER SAYS: "HE EXERCISED WHAT WE COULD CALL EXTREMELY POOR JUDGMENT"

THE SHOCK THAT ZAPPED TUCSON ELECTRIC

As profits sank, the chairman was forced out for selling his stock

It had been one of those scorching 100F weekends that gladden the hearts of utility executives everywhere. Tucson Electric Power Co. Chairman Einar Greve had squeezed in a little hiking, but he'd spent most of the weekend, as he often did, at the office.

Now, minutes into his Monday morning, he suddenly found himself in a surprise confrontation. Two of his board members, former University of Arizona President John P. Schaefer and construction executive H. Wilson Sundt, strode into his wood-paneled office. They made it as blunt as could be: Outside directors no longer had confidence in Greve. And by noon, just like that, he had quit and was hustling out the door.

Greve's July 17 resignation followed his decision over the previous three weeks to sell, for an estimated \$1 million, his entire holdings in Tucson Electric stock. The sales, made as the utility was in the middle of contentious proceedings with state regulators over a rate hike, came at a highly dubious time. Says Schaefer, who has succeeded Greve as chairman: "At minimum, he exercised what we could call extremely poor judgment."

But that wasn't the half of it. A decade after Greve helped resurrect Tucson Electric from serious troubles, the Arizona utility is once again in woeful shape. Several top executives have retired or quit, a slew of real estate invest-

ments have soured, and state regulators are holding hostage the company's first rate increase in seven years. What's more, BUSINESS WEEK has learned from directors that Greve sold his stake in the company just after Goldman, Sachs & Co., the utility's investment banker, delivered a report detailing the draconian steps needed to set the company right.

Tucson Electric's new president and

Greve, he added: "You tell me how it looks when the chief executive sells everything he owns in his company."

On Greve's behalf, a company spokesman said in June that Greve sold some stock to "pay loans, to pay taxes, and to offset some gains and losses." Greve's lawyer in Washington, D.C., Theodore Sonde, adds that Greve has regularly sold stock he got via company-granted options. Sonde had no further comment and Greve did not respond to requests for an interview, despite repeated attempts to reach him—by telephone, telegram, and in person at his home.

PAINFULLY SHY. Greve's sudden fall took his colleagues by surprise. They described the 61-year-old as a painfully shy man who rarely socialized or gave speeches. One utility executive recalls that when he met Greve at a mall a few months ago, Greve rushed away. "I couldn't tell you where he lived or what his phone number was," says board member Kathryn N. Dusenberry, a vice-president of City Van & Storage Co. in Tucson.

Instead, Greve worked in his office during 16-hour days. Fanatic about punctuality, he insisted that meetings start on time and last no more than an hour. He often memorized intricate details of even the most complex power projects. Greve was not comfortable with financial matters—and he watched in dismay last September as a long-time colleague, Chief Financial Officer Kenneth L. Saul, retired. On June 28, Saul's successor, another utility veteran, Joe G. Coykendall, quit, too. Greve, says one director, "had started feeling very alone, with a company that was beginning to list."

Greve emigrated to the U.S. from Norway in 1950 to study electrical engineering at Massachusetts Institute of

SOME OF TUCSON ELECTRIC'S LOW-WATTAGE INVESTMENTS

Investment Type of company	Percent ownership	Carrying cost*	Market value**
		Millions	
UNION PLANTERS Commercial Bank	21%	\$54.7	\$39.6
CITADEL HOLDING Savings and Loan	22	45.3	28.6
FOOTHILL GROUP Commercial Finance	40	28.7	27.5
TOTALS	--	128.7	95.7

*As of Dec. 31, 1988

**As of July 24

DATA: COMPANY REPORTS, BRIDGE INFORMATION SYSTEMS INC.

chief executive, Thomas C. Weir, would confirm only that Goldman Sachs had completed the report and that Greve had resigned before showing it to the board. But board member J. Luther Davis, who retired last year after more than 21 years as the utility's chairman, was more blunt: "We already knew things weren't going well, but this report showed things even worse." About

Technology. After 22 years with the Boston engineering firm Charles T. Mann Inc., he joined Tucson Electric in 1975. Working under CEO Theodore M. Welp, Greve revived the ailing utility by making power plants more efficient and stringing lines to export electricity to power-hungry Southern California. A separate unit was set up to hedge against weak power demand by investing in real estate and stocks.

By the early 1980s, the utility was on a roll. Its generating costs were among the industry's lowest, its nonutility assets approached \$1 billion, and earnings increased each year. Greve became CEO in 1985. By 1987, he was among the best-paid utility executives—with pay, bonus, and stock options worth \$1.9 million.

But his personal life was a tumult. His 22-year marriage to Elizabeth M. Greve ended in 1980. According to court papers, the couple split all their assets, including proceeds of the sale of their home in Tucson and a winter house in Telluride, Colo. Elizabeth Greve, who declined to be interviewed, took much of their savings. Einar Greve kept his Army and utility pensions, along with an old pickup truck and Dodge Ram-charger. She took the Porsche 911.

Colleagues say Greve's next marriage, on which public records were not available, also ended in divorce. Then, last December, he married Sheri Jackson, who is said by Greve's colleagues to be in her early 30s. They recently built a \$200,000 house in Sin Vacas, an exclusive enclave in the foothills of the Santa Catalina Mountains overlooking Tucson. The house is decorated with expensive Oriental tapestries and furniture. Meanwhile, they have not been able to sell their previous home, a 20-year-old three-bedroom adobe ranch house listed for \$205,000, according to a nearby Century 21 real estate office.

MOUNTING DANGER. Greve may have found happiness in his new marriage, but at the office trouble was brewing. Poor investments and a sluggish Arizona economy took their toll: 1988 profits fell by 5%, to \$128.9 million, on \$624.7 million in revenues. For the first time since 1977, the company didn't boost its dividend in 1989.

Little has improved since. First-quarter net sank 13%, to \$18.8 million. Another telltale sign: A 10-year pact to sell power to San Diego Gas & Electric Co. expired in May, taking with it nearly \$124 million a year in sales. The deal's renewal fell by the wayside as the two utilities scuttled a 1988 merger plan. Worse, state regulators have recommended only about one-third of the \$102 million in higher rates the utility wants.

And next year the utility will be forced to go back to the regulators to ask for another large rate increase to

cover the expenses of building a new \$760 million power plant due to come on line in 1990. Observes Shearson Lehman Hutton Inc. utilities analyst Edward J. Tirello Jr.: "They have a disaster on their hands." He sees Tucson Electric's net falling 25% this year, to about \$3.70 a share. The utility's board is contemplating a cut in the dividend.

To date, Securities & Exchange Commission investigators have not gotten in touch with Tucson Electric. But some shareholders are already suing Greve and the utility in federal court in Camden, N. J. The suit alleges nondisclosure of material information on the company's troubles. The utility wouldn't comment on that suit or six similar ones that have been filed.

Beyond those problems, the utility has ailing investments in hotel developments in four states, including one in Louisville that is in bankruptcy. Weir says those



CEO WEIR FORESEES A LAWSUIT

problems are under control. But the company has also been forced to write off \$8 million of an \$11 million investment in a stalled Phoenix residential development, Kingswood Parke. The losses could grow, since the utility issued \$40 million in loan guarantees on the project. On July 14, Merabank sued for the entire \$40 million. Tucson Electric's stakes in some big financial-services companies also are under water (table).

Despite the mounting evidence of danger, directors claim that Greve was upbeat about the utility's prospects as recently as the board's June meeting. Davis recalls Greve saying that if regulators decided against the rate increases, "we'd be able to win it in the courts."

That's what Greve may have been saying to directors. But at about the same time, confirms Chief Executive Weir, Greve had received the Goldman Sachs report outlining the company's many woes. Observes Weir: "You know that there's going to be a lawsuit or a securities investigation out of this." Einar Greve's woes are only beginning.

By Ronald Grover in Tucson

BRADLEY: DOWN AND NEARLY OUT?

Charges that L.A.'s mayor favored a local bank are damning

For years, Los Angeles residents could rely on smog in the air and Tom Bradley in the mayor's office. The air is still dirty, but the 71-year-old Bradley's days in City Hall may be numbered. Even before he began his fifth term in June, Bradley was under fire for taking consultant's fees from local banks doing business with the city. Then, on July 24, Los Angeles' City Council heard testimony that Bradley may have pressured city officials to invest \$2 million in a certificate of deposit issued by one of those banks.

The deposit to Far East National Bank, a local commercial bank, was made on Mar. 22, the same day that Bradley spoke with City Treasurer Leonard Rittenberg concerning city funds deposited with Far East. Bradley had earlier received \$18,000 for providing undisclosed consultancy work to Far East. He returned that fee on Mar. 24 in the face of increasing questions about his dealings with the bank.

BAD TIMING. Rittenberg told the city council that Bradley called him about the status of Far East's relationship with the city but didn't order him to make the deposit. Bradley says that he called to see if the city had terminated an earlier deposit authorized under the city's minority-investment program. But city auditors say the CD was purchased without the usual competitive bid process. Worse yet, they say, Bradley's approval—signified with a "per the mayor" notation from a staffer—had been whitened out.

Bradley may not have known about the deposit. But its revelation comes at a bad time. Earlier he had resigned as a \$24,000-a-year director of Valley Federal Savings & Loan after it was revealed that the thrift did business with the city. And this spring, the Justice Dept. and the Securities & Exchange Commission looked into Bradley's investments in junk bonds underwritten by Drexel Burnham Lambert Inc.

Support for Bradley on the 15-member city council is eroding. One of his strongest supporters, Joan Milke Flores, sounds a little disheartened. "I want to keep defending the mayor," she says, "but we're not getting the whole story." And with each passing day, the story gets worse for Tom Bradley.

By Eric Schine in Los Angeles



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The new 535i you see here abundantly fulfills the promise of its athletic shape. Its 208-hp 6-cylinder sprints from 0 to 60 in just over 7 seconds, while its sleek, stable body and patented fully-independent suspension let you dance through corners with ease.

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The new 5-Series is impressive on paper. But as a test drive at your authorized BMW dealer will prove, it is exhilaratingly so on pavement.

THE ULTIMATE DRIVING MACHINE.



Commentary/by Judith H. Dobrzynski

RESOLVED: SHAREHOLDERS NEED TO TAKE MORE DRASTIC ACTION

As proxy seasons go, 1989's exercise in corporate democracy, just ended, wasn't a bad one for shareholders. More institutional investors offered more resolutions—which got more votes—than ever before. Shareholders defeated two management proposals at Honeywell Inc. And they worked in tandem with management at National Intergroup Inc., which agreed to submit its poison pill to a shareholder vote and reduce its term from 10 years to three. On July 26, the measure got 97% of the votes cast. The days when management deeds went unquestioned by passive shareholders are over.

Still, it's time to consider changing tactics: moving beyond measures to reform corporate governance and fo-

side meddling. Only egregious cases of poor management justify intervention.

Targeting corporate laggards would be the next step in a natural evolution that began when social activists started challenging such practices as investing in South Africa. Public pension funds got deeply involved as takeovers swept the U.S.—and managers paid greenmail and installed shark repellents to obstruct market forces. The funds offered resolutions to improve governance. If the process was improved, they reasoned, the substance—better performance—would follow.

So far, outright victories have been few. Activists won at Honeywell because, for the first time, two public funds joined with private investors to hire a proxy-solicitation firm and con-

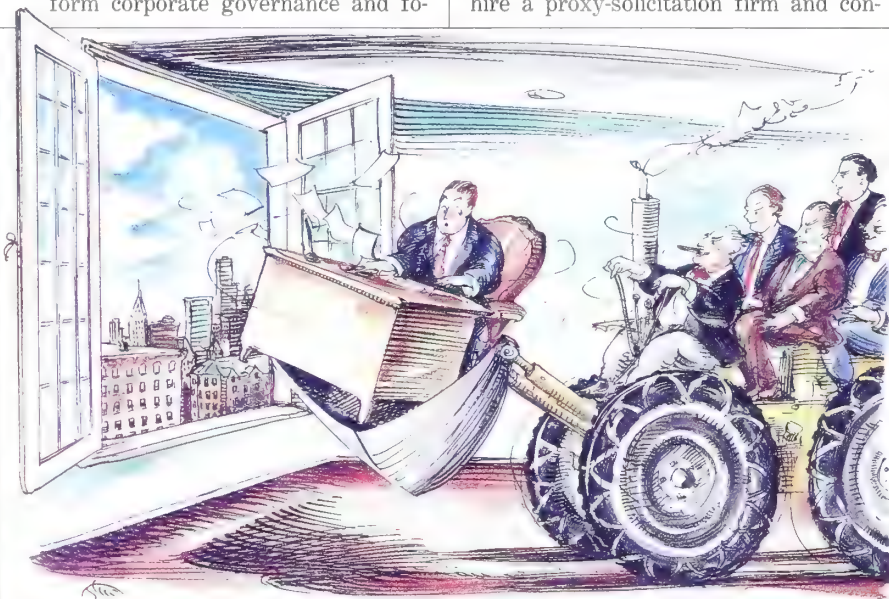
ing bylaws to thwart shareholder action. More enlightened ones are trying to boost shareholder value. And they are negotiating: Shareholders have persuaded several companies to switch to secret ballots voluntarily. As a result, fewer shareholders now view proxy voting as a charade. More are actually voting, says the Independent Election Corp. of America, proxy tabulators.

'NOT THE WAY.' Yet as a means of influencing management, shareholder proposals leave a lot to be desired. Proxy rules are stacked in management's favor. Most votes, by law, are strictly advisory. And the resolutions are a long, roundabout way of improving economic performance—the ultimate goal. "Shareholder resolutions are not the way to do things," concedes Sarah A. B. Teslik, executive director of the Council of Institutional Investors, an association of public pension funds.

Many funds now know they have to change. On some agenda items, such as confidential voting, they will take a more direct route. CII is lobbying for—and has drafted—simple legislation to make secret ballots, as well as independent tabulation of votes, a Securities & Exchange Commission requirement.

Eliciting better performance from corporations is tougher. As investors, they can't be managers. But this is by far the more important goal, the one to which they should turn their attention. The first step is identifying the companies whose long-term performance is wanting. That shouldn't be hard—skidding stock performance, a low return on assets, sinking market share, minimal stock ownership by management and directors, and inappropriate, lavish spending on perks are all key indicators. Investors should watch out, too, for managements that steadily bolster their antitakeover armor. Funds should attempt a dialogue with these managements, stating their frustrations and seeking change.

When that's not enough, shareholders have to lobby their boardroom representatives—the outside directors. Investors should challenge the election of unresponsive board members. And they should be willing to nominate directors who will take an independent line, argue for faster action or a different corporate strategy, and—if all else fails—change management.



cus, instead, on pushing poor performers—and their boards—to improve. Such steps are all the more important in the wake of court decisions in the Time-Warner-Paramount case, which reaffirmed directors' right to manage companies (page 24).

EVOLUTION. Why bother? Because public pension funds now own too much stock in too many companies to take the old "Wall Street walk" and sell out when they're unhappy. Besides, by reasserting their ownership rights, they can help boost corporate competitiveness. The institutions have to be judicious, though: Most companies are reasonably well-run and need no out-

test plans to stagger directors' terms and to eliminate shareholders' right to take action by written consent of a majority. At Avon Products Inc. and Consolidated Freightways Inc., antipoison-pill measures won over half the votes cast, though not a majority of shares outstanding. In other contests, resolutions to ban greenmail, rescind poison pills, and institute confidential proxy voting won an average of 25.5%, 38.2%, and 27.4% of the votes cast, respectively, according to the Investor Responsibility Research Center.

But win or lose, the votes are influential. Some managers are battenning down the hatches even more—chang-

TWO BIG MACS, LARGE FRIES —AND A PEPPERONI PIZZA, PLEASE

Now, McDonald's wants to cut itself a piece of the pizza market



TESTING GROUND: EVEN IF THE PIZZA IS A HIT IN EVANSVILLE, McDONALD'S WILL MOVE SLOWLY

It's all happening just outside of Evansville, Ind., at the McDonald's restaurant over by the Sun Set Motel on U.S. 41. There, curious locals gather at the No. 1 hamburger chain dishes up—guess what—pizza. The McDonald's Corp. experiment, unveiled on July 10, made front-page news in this Bible Belt city of 130,000 in the rural southern part

of the state. It has also put the fear of God into pizza marketers nationwide. "Our people have been all over it," says a Pizza Hut spokesman. You may think the last thing the world needs is another pie monger, but the pizza market may be too mouth-watering for McDonald's Chief Executive Michael R. Quinlan to pass up. Americans wolfed down \$20 million worth of pies last year, and pizzeria sales have grown at an 11% annual clip over the past five years. By contrast, the \$31 billion burger business is growing only 1% a year. With its global reach and \$1 billion annual marketing budget, McDonald's could quickly grab a big slice of the action.

TOUGH FIGHT. Besides giving McDonald's a new growth market, pizza could fill a gap in the company's business. Its evening trade is fairly light, so McDonald's will po-

sition the pie as a dinnertime meal available only after 4 p.m. The fresh, 14-inch, 8-slice pizza comes in four varieties—cheese, sausage, pepperoni, and deluxe—and the price ranges from \$5.84 to \$9.49. At those prices, pizza and soft drinks for four cost about the same as burgers and such for the same crowd.

McDonald's won't comment on test re-

McMAMMA MIA, THAT'S A PRETTY GOOD PIZZA

Does McDonald's pizza have pizzazz? To find out, BUSINESS WEEK treated the Piper family of Evansville to a couple of pies. Tom and Brenda Piper are confessed pizza freaks: They pick up one or two pies a week from Pizza Hut, Domino's Pizza, or Noble Roman's, a regional chain.

Overall, the Pipers were impressed with the McDonald's sausage and deluxe pies they tried. They liked the healthy assortment of fresh ingredients and voiced just a few minor complaints. Tom, an affable service technician with Digital Equipment Corp., found the seasoning a bit timid. Brenda

thought McDonald's was rather stingy with the tomato sauce but preferred its crust to Domino's "card-board" version.

The Piper boys didn't carp. After three slices, Chris, 9, bestowed the coveted thumbs-up award, while



TOM PIPER: A BIT TOO MILD

Brandon, 2, merely waved a slice of pepperoni. Later, after painting his face with vanilla ice cream, Brandon rendered his verdict on the pizza: "I like, too."

sults so far. It's holding off until late August, by which time about 20 stores in Evansville and nearby Owensboro, Ky., will be peddling pizza. But even if the offering is a hit, McDonald's is likely to move cautiously. The reason: Its pizza gambit will surely meet fierce opposition. Pizza Hut Inc., the top pie chain, plans a tough ad campaign to keep McDonald's out of its turf. Two years ago, Pizza Hut blasted the single-serving, frozen pizza product tested under the Golden Arches in Charleston, N.C., and Salt Lake City. Pizza Hut's TV ads featured an icy McPizza thudding onto a store counter. McDonald's ditched the idea of selling pizza by the slice.

Besides fighting off angry rivals, McDonald's will have to be sure its pizza doesn't cannibalize nighttime sandwich sales. And it must maintain its legendary efficiency with a new and different product. Says Mike Raymond, Domino's Pizza Inc.'s vice-president for marketing: "This will be a real challenge for them."

QUICK TURNAROUND. That might be wishful thinking. Pizza-making used to be a tricky art: Chefs had to maneuver the pie slowly around the hot and cold spots of traditional deck ovens. Now, speedy conveyor ovens blast hot air evenly over the top and bottom of the dish, leaving little room for error and producing a fresh-cooked pizza in about five minutes. That kind of turnaround, coupled with McDonald's drive-through capacity, could augment the restaurant's in-store sales and could lure carry-out customers from Pizza Hut and Little Caesars Pizza, as well as from Domino's delivery business.

With its 10,500 outlets, McDonald's also boasts strength in numbers. Even Pizza Hut, the industry's big cheese, has only 6,000 stores. So in smaller markets, giant McDonald's will be competing with the tiny, mom-and-pop pizzerias that still make up about 40% of the industry, according to Chicago food consultant NPD-Crest.

For now, Evansville seems tickled that the fast-food colossus chose the town as its testing ground. "We pretty much represent the country as a whole," crows Evansville Mayor Frank McDona. If so, executives at Pizza Hut and the other major chains had better hope that McDonald's new pizza lays an egg in Evansville. If it doesn't, Mickey D's rivals are heading for a real case of heartburn.

By Brian Bremner in Evansville, Ind.

EDITED BY HARRIS COLLINGWOOD

BIG STEEL GETS ANOTHER BREATH

► Heeding the free-traders in his Cabinet, President Bush opted for a 30-month renewal of voluntary restraints on steel imports. That's the bare minimum Bush needed to meet his campaign pledge to extend steel quotas and far less than the five-year deal the steel industry wanted. "The Administration is putting its money where its free-trade commitments are," says Brookings Institution economist Robert Lawrence.

The Administration hopes to negotiate a halt to foreign steel subsidies before the restraints expire in 1992, but the steel industry views that as wishful thinking. And though the White House implied that there won't be another extension, Bush will be up for reelection in 1992. That may defer the end of protection for the steel industry.

THE VALDEZ SPILL SEEPS INTO EARNINGS

► The environmental cost of the Exxon Valdez oil spill may not be known for years, but the economic toll on Exxon is becoming apparent. On July 24, the oil giant announced that cleanup expenses and claims related to the disaster reduced second-quarter earnings by \$850 million, or 67¢ a share. Net income of \$160 million, or 13¢ a share, on revenues of \$23.6 billion fell 87% from 1988's second-quarter net of \$1.2 billion on revenues of \$21.6 billion. The \$850 million cleanup is what Exxon will have to pay out even after insurance.

NASTY BUSINESS AT NATWEST

► Not since the Guinness scandal of late 1986 has the City of London been rocked by such alleged financial misdeeds. At the center of the

storm is National Westminster Bank, Britain's second-biggest bank and an expanding presence in the U.S. In the wake of a damning report from government investigators, Lord Thomas Boardman, chairman of NatWest, and three directors have resigned.

At issue is NatWest's role in the \$1.3 billion purchase of Manpower by a competing personnel agency, Blue Arrow, in 1987. The government report says that the bank failed to disclose that it took a large position in Blue Arrow shares issued to finance the deal, thus misleading the market and regulators. In addition, says the report, NatWest secretly indemnified a broker against losses to win its support for the deal. The bank could face further legal or regulatory action.

TAKING A BITE OUT OF APPLE'S LAWSUIT

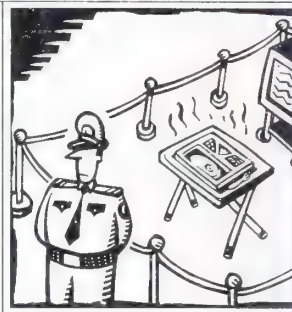
► Apple Computer's bid to block competitors from mimicking some of its Macintosh computer technology has suffered a near-fatal blow. On July 25, a federal judge in San Francisco ruled that a 1985 licensing agreement between Apple and Microsoft means that Microsoft and Hewlett-Packard may use many of Apple's screen characteristics in their own software packages.

The judge threw out all but 10 of the 189 similarities that Apple cited in its suit against Microsoft. The case may yet

WHAT'S 35 YEARS OLD AND IN YOUR FREEZER?

Here's an anniversary of note: Swanson's TV Dinner, that American classic, was introduced 35 years ago. The first variety, retailing for all of 98¢, featured turkey and dressing, peas, and sweet potatoes. Nowadays you can spend more than four times as much on low-calorie, low-sodium frozen dinners, but Swanson's perennial best-sellers are \$1.89 fried chicken and Salisbury steak in gravy, which owe their popularity, perhaps, to all the fat and salt that go into them.

Though TV dinners may never win a nutrition award, it's hard to find anyone who'll say anything bad about them. Ever. André Soltner, owner-chef of Manhattan's posh Lutèce restaurant, declined to speak ill of them. And TV dinners are even a certifiable cultural artifact. Now that Swanson's uses a microwave-friendly plastic serving tray, the original tin tray has been enshrined in the Smithsonian.



go to trial, but software developers say the 10 items won't deter competitors. Apple's best bet may be an out-of-court settlement.

HONEYWELL'S RAIDERS REPELLED

► Prodded by impatient shareholders and rumors of an impending raid by investor Richard Rainwater, Honeywell is restructuring. It will move away from the weapons business, which accounted for some 20% of 1988's \$7.1 billion in sales, and concentrate on electronic controls for military and civilian markets. It will also sell most of its interest in a Japanese joint venture.

The restructuring includes a stock buyback, a dividend increase, and a 5% reduction in the company's 78,000-member work force. Management has pledged that Honeywell's 1990 operating profits will exceed analysts' projections by \$150 million.

A GO-GO DISK DRIVE IS A NO-SHOW

► For months, large companies using IBM's mainframe computers had been looking forward to getting their hands on Big Blue's new-generation magnetic disk drive. It was to be a screamingly fast data storage device, designed to boost greatly the speed at which IBM System/370 computers could retrieve and process information. But on July 25, the drive's due date, all IBM would say was that it was postponing the unveiling indefinitely while it continued to test and refine the design.

The company won't say why its new disk has slipped, but if analysts are right about thorny technical problems, IBM won't see much of the \$1.5 billion in revenues that it expected this year from the product. IBM stock fell ¾, to 112¾, after the postponement became public.



OHAY, SO WHERE ARE THEY?



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AND AUCKLAND.

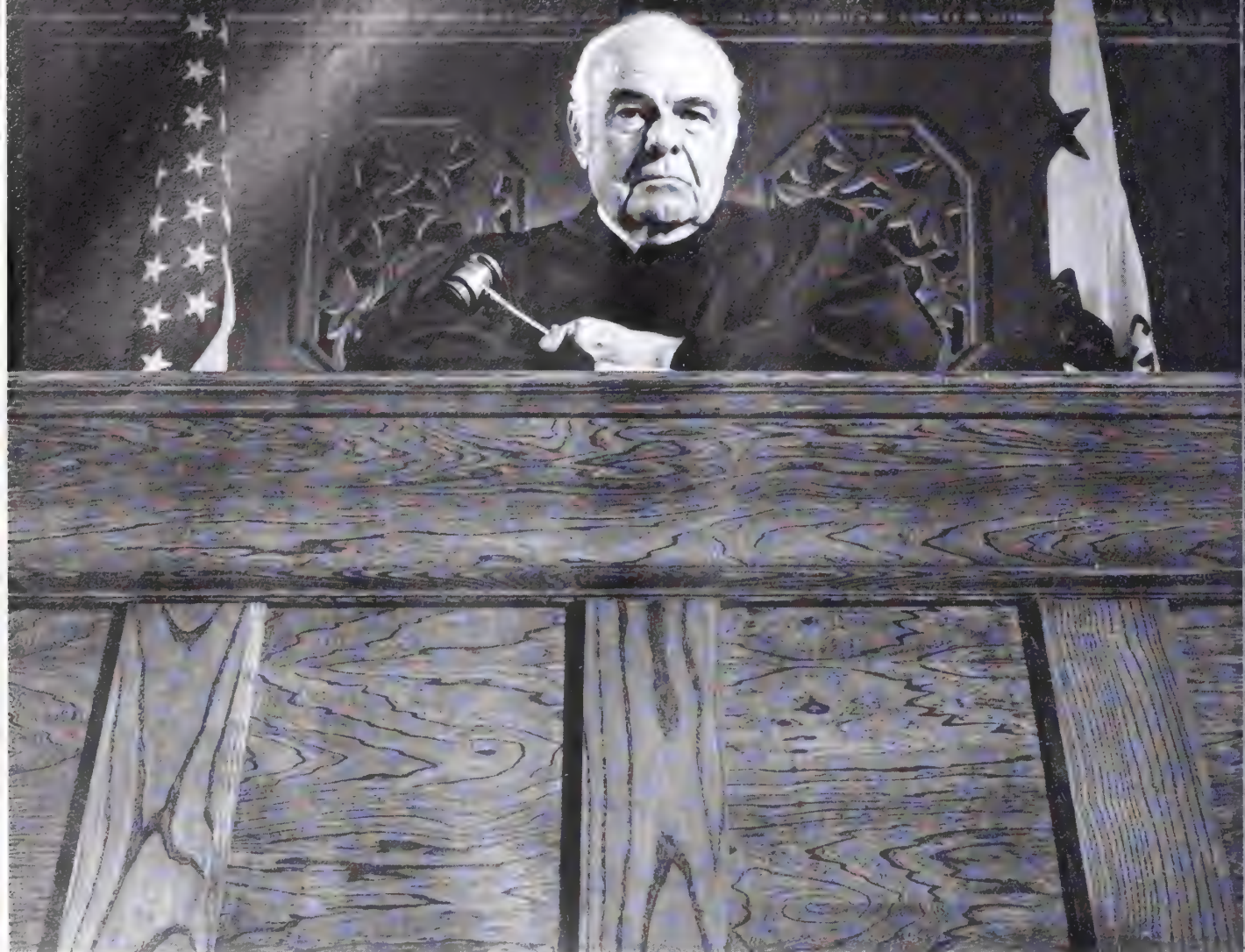
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DICK THORNBURGH: NOT BEING ED MEESE ISN'T ENOUGH ANYMORE

Things aren't turning out quite the way Dick Thornburgh expected when he was named Attorney General a year ago. The former Pennsylvania governor, a popular, mid-of-the-road politician, seemed just the man to succeed Ed in Meese III, who resigned after a lengthy ethics scandal. For a long time, Thornburgh, 57, was able to win points just for not being Ed Meese. But now the Attorney General is getting chewed up by the fierce politics of post-Reagan Washington. Thornburgh's appointments are under fire from left and right, and his relations with both the White House and Congress are strained. "He's discovered the hard way how polarized legal issues have become," says Patrick McGuigan, a conservative activist.

PLAYING THE PRICE. Staffing the Justice Dept. has proven traumatic for Thornburgh. Wall Street lawyer Robert B. Fiske Jr., Thornburgh's choice for Deputy Attorney General, withdrew in the face of conservative opposition. Fiske's son: He chaired an American Bar Assn. committee that discouraged President Reagan from naming some conservative lawyers to the federal bench.

Thornburgh's selection of former Wayne County (Mich.) Executive William C. Lucas to head the Civil Rights Div. has also gotten him into trouble—this time with liberals. The civil rights community, which charges that the black Republican is unqualified for the job, has mounted a massive campaign against Lucas that has left his confirmation in doubt.

No matter how the fight is resolved, the dispute has damaged Thornburgh's efforts to mend fences with civil rights leaders. Says Ralph G. Neas, director of the Leadership Conference on Civil Rights: "There may be a marked difference in openness and rhetoric, but in substantive policy, there's not much difference from the Meese Justice Dept."

The Lucas flap has also soured Thornburgh's relationship with the White House. Bush aides intended to give a top job to

Lucas, who had bolted the Democratic Party to run for governor of Michigan in 1986. But they planned to offer the civil rights post to Equal Employment Opportunity Commissioner Evan J. Kemp Jr. Thornburgh forced Bush's hand by announcing his support for Lucas' appointment as civil rights chief while the President was out of the country. Now, Bush aides are miffed that they have to spend political capital to save a nominee they didn't even want.

Nominations haven't been the Attorney General's only struggle on Capitol Hill. Influential House and Senate members are gearing up to use the Justice appropriations bill to force Thornburgh to drop his plan to disband 14 organized-crime strike-force units, which he announced on the eve of a House hearing called to discuss the future of the anti-crime teams. The strike-force issue, says Representative Charles E. Schumer (D-N.Y.), "was handled very poorly. It left a bad taste in most members' mouths." Democrats also complain that Justice isn't moving aggressively to prosecute former officials of the scandal-ridden Housing & Urban Development Dept.

MEDIA MASTER. Within Justice, Thornburgh has shored up the sagging morale of career lawyers. But many officials complain that he's inaccessible and dictatorial. A Justice Dept. source says the Attorney General's efforts to centralize control are causing friction with the Federal Bureau of Investigation, the Immigration & Naturalization Service, and the U.S. Marshals Service.

Thornburgh remains a highly skilled politician and media master. While denouncing leaks about one criminal investigation, Thornburgh himself revealed a probe of the Rocky Flats nuclear-weapons plant on the day that search warrants were executed. Those skills served him well during eight years in Harrisburg. But they may not be enough in the new rough-and-tumble of Washington.

By Paula Dwyer



ATTORNEY GENERAL THORNBURGH

CAPITAL WRAPUP

APPOINTMENTS

Continuing struggles over filling top Administration jobs are frustrating to both the Senate and the Bush team. Housing & Urban Development Secretary Jack F. Kemp complains that the Senate Banking Committee moves too slowly to approve HUD nominees. Chairman Donald W. Riegle (D-Mich.) grumbles that the Administration took its sweet time sending the names to the Senate. The committee, he says, is now tied up in a conference with the House on the thrift bailout bill. Protracted fights over some appointments have left a bitter taste. Senator Sam Nunn (D-Ga.) wants to restrict access

to FBI reports on nominees to prevent the sort of widespread discussion of unsubstantiated charges that marked the debate over John G. Tower's nomination as Defense Secretary.

DEFENSE

Office of Management & Budget Director Richard G. Darman has no immediate plans to fill the long-vacant post of associate director for national security. Darman, who served a brief stint at the Pentagon during the Ford Administration, thinks his close ties to Defense Secretary Richard B. Cheney and National Security Adviser Brent Scowcroft will allow him to handle the military budget himself.

SPACE

You might think big aerospace companies would be delighted by the Bush Administration's backing for a \$400 billion scheme to build a colony on the moon and send Americans to Mars by the year 2020. Wrong. Rockwell International, McDonnell Douglas, and General Dynamics are all less than thrilled by the grand plan hatched by Vice-President Dan Quayle's Space Council and endorsed in principle by the President on July 20. They wish the council had stuck closer to earth and given more vigorous backing to the National Aerospace Plane, a less ambitious but far more realistic project.

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HOW MUCH LONGER CAN GORBACHEV KEEP PUTTING OUT FIRES?

Astute maneuvering to stay ahead of events he can't control is a key to Mikhail S. Gorbachev's political success. He turned the Chernobyl disaster into a demonstration of *glasnost*, or public scrutiny, and he converted the Soviet Union's retreat from an unpopular Afghan war into political gains at home and abroad. Now, Gorbachev is trying to head off a potential challenge to his authority from restless workers by turning their wrath against bureaucrats and local communist Party officials who oppose his reforms.

To help end wildcat strikes that shut down much of the Soviet Union's coal output, Gorbachev proposed on July 24 that the country's 15 republics should be allowed to hold early elections for local government councils. Such votes would give workers and their sympathizers the chance to oust officials they blame for grievances from mismanagement of mines to food shortages and pollution. Gorbachev, who praised the workers, is letting voters will throw out conservatives who have braked his plans for *perestroika*.

MAIN REACTION. But even such agile political footwork will only buy time. The day is coming when Gorbachev will have to cut some goods on empty store shelves or face far more serious industrial unrest. So far, *perestroika* has done little to revive the sick economy. That leaves Gorbachev little option but to rob goods from one area to patch over discontent in another. To end the coal walkouts, he promised bigger bonuses, more consumer goods, and other benefits that will shift resources worth \$8 billion to the miners from other parts of the economy but will do nothing to boost productivity. "You can meet the demands of a tiny part of our labor force, but you do so at the expense of someone else," warns Vladimir Kostakov, director of the Research Institute of Gosplan, the State Planning Agency. If other workers follow the miners' lead, the result could be a chain reaction of labor turmoil that

would disrupt industrial output and force Gorbachev to crack down on strikers—or face the failure of his economic reforms.

A basic dilemma is that "a lot of reforms are not all that welcome to workers," says Walter Connor of Boston University. *Perestroika* may tie wages to quality controls, for example, and could throw workers out of jobs by shutting down unprofitable factories and mines. Politically, labor unrest is particularly threatening to Gorbachev because the Soviet

Union, like other Marxist regimes, claims to be a workers' state. If workers rebelled, they could "strip reforms of much-needed legitimacy," observes Stephen F. Cohen of Princeton University. That would pose an even greater threat to Gorbachev than the nationalistic outbursts from Georgia to the Baltics.

But there is also a danger that nationalism and labor grievances may react in a volatile combination. That has already happened in Estonia, where ethnic Russian workers walked out at shipyards, an electronics factory, and other industries

to protest Estonian discrimination against them. "The strikes are a warning shot across Gorbachev's bow," says Ed A. Hewett of the Brookings Institution. "They are saying, 'You really are running out of time to produce results with these reforms.'" Crucial issues that Gorbachev has been sidestepping but must now tackle include wage inflation, a ballooning ruble supply, and the need to let supply and demand set realistic prices.

To come to grips with these explosive issues, Gorbachev won a strong mandate in parliamentary elections last March, and local voters should elect more reform-minded officials. Now, after four years of preaching *perestroika*, Gorbachev is getting a clear message from the coal fields: He may soon face a make-or-break test for his reforms.

By Dianne Rinehart in Moscow, with Peter Galuszka and Stanley Reed in New York



MINERS: LABOR UNREST IS STILL A THREAT

GLOBAL WRAPUP

MEXICO

Besides slashing interest-payment outflows by \$1.5 billion a year, Mexico's debt-reduction accord with foreign banks may bring in more investment from abroad. To persuade all 450 creditors to agree to the plan, the Mexicans will let them convert loans totaling up to \$3.5 billion into equity stakes in infrastructure ventures or shares in privatized firms.

Even before the July 23 debt deal, new money had started to come in under recently liberalized foreign investment rules. Investments worth nearly \$1.5 billion have been approved so far this year, mostly since May. A dozen

big ventures, particularly in petrochemicals and auto parts, account for almost half of the total. Some investment may be flight capital returning home. As part of the debt deal, Mexico pledged efforts to lure back some of the \$86 billion that Mexicans have stashed abroad.

BRITAIN

Prime Minister Margaret Thatcher intends to keep a tight grip on foreign policy—and continue to resist moves toward full integration of the European Community. To do so, she booted veteran Foreign Secretary Sir Geoffrey Howe upstairs to Deputy Prime Minister as part of her July 24

Cabinet shakeup. Howe's strongly pro-Community outlook had clashed with Thatcher's more aloof attitude toward the EC. To make sure that her own view prevails, Thatcher replaced Howe with 46-year-old John Major, an ex-treasury minister with no track record in foreign affairs.

By moving young politicians into key jobs, Thatcher also aims to bring new vitality to her 10-year-old government. As Environment Secretary, Christopher Patten, 45, will try to improve the Conservative Party's image on "green" issues such as pollution, while wrestling with controversial Thatcher plans to privatize water supplies and overhaul local taxes.

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RETHINKING JAPAN

THE NEW, HARDER LINE TOWARD TOKYO

It was one of those moments that, in retrospect, mark a turning point. At his confirmation hearing in the plush room of the Senate Foreign Relations Committee, Secretary of State-nominee James A. Baker III was startled by a question on an obscure topic: Hadn't the outgoing Reagan Administration failed to consider the implications of jointly producing a new generation of fighter plane with the Japanese? Wouldn't the Japanese take the technology and beat us at our own game? The ever-gracious Baker promised that he would reexamine the issue as soon as he got back to Foggy Bottom.

Four months later, a bruising battle within the Bush Cabinet was over, and the landscape of U.S.-Japan relations seemed forever changed. For the first time, policymakers treated America's economic strength as a national-security issue: Washington extracted from Tokyo a guarantee on how much of the FSX fighter business the U.S. would get, how much U.S. technology would be shared, and what new technology would flow back.

In doing so, the White House was openly acknowledging something that was already an article of faith on Wall Street and in Silicon Valley: Washington's tolerant and paternalistic policy toward Tokyo no longer reflected the relationship between the two economic giants. Even more important, many in the U.S. had come to question whether they had ever really understood Japan.

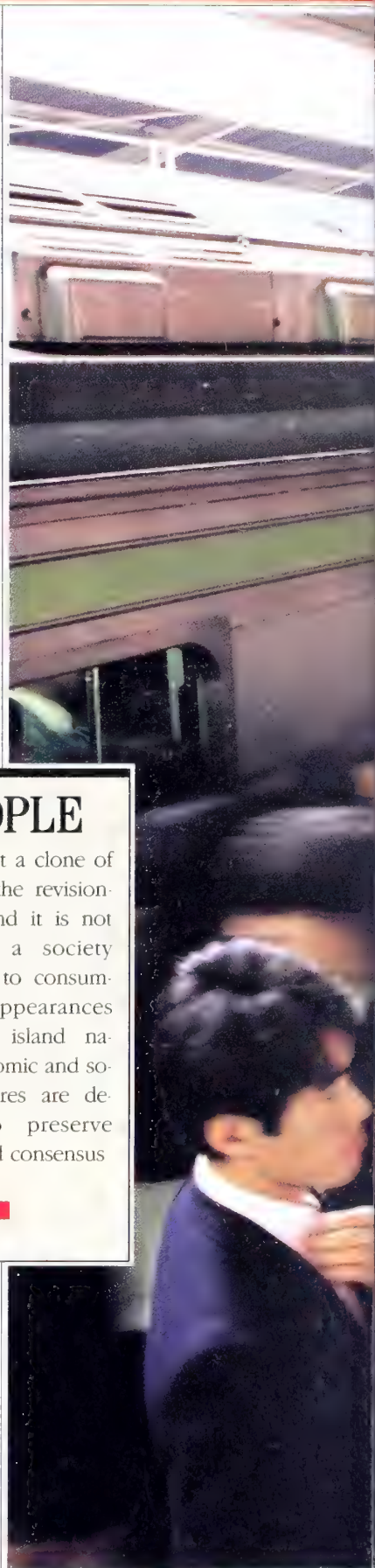
No less than a fundamental rethinking of Japan is now under way at the highest levels of U.S. government, business, and academia. The standard rules of the free market, according to the new school, simply don't work with Japan. The country is not evolving into a more open economy, say the adherents of the new thinking, but is driven by economic conquest and must be treated with different rules. "The deterioration of perception toward Japan is very obvious," says Yukio Okamoto, an official in Japan's Foreign Ministry.

Some people call the new thinking "revisionism," departing as it does from the orthodox view that Japan will eventually become a U.S.-style consumer-driven society. Revisionists believe Japan's power brokers have no such goals, are interested primarily in making Japan economically dominant in the world, and will only open up to trade partners when pushed to the wall. U.S. companies have discovered, says William T. Archey, a vice-president at the U.S. Chamber of Commerce, that "it doesn't matter how good you are, how hard-working, how much you look at the long term, or how much you spend on R&D. A Japanese decision to buy your product is not going to be based on the market principles we're familiar with."

The revisionists are out to prove that their detailed criticisms cannot be

PEOPLE

Japan is not a clone of the West, the revisionists say. And it is not becoming a society committed to consumers. All appearances aside, the island nation's economic and social structures are designed to preserve stability and consensus







POLITICS

Japan's weak political institutions, such as the governing Diet, make economic reform difficult. A series of recent scandals has accentuated the crisis of leadership, and U.S. demands on trade may well have a hard time finding the right ear

dismissed as those of Japan-bashers. Extensive research, years of living in Japan, and the trials of gridlocked trade talks all are used to depict how different Japan's political and economic institutions are from America's. "The idea that this is anti-Japanese is wrong," says Ivan Hall, a visiting professor of history at Keio University in Tokyo. "You can be critical of Germany and other countries without being branded as a basher."

QUICK JABS. The new thinkers come from a wide spectrum, including journalists, academics, Bush Cabinet members, and CEOs. Among the most prominent are U.S. political scientist Chalmers Johnson, Dutch journalist and author Karel van Wolferen, former trade official Clyde V. Prestowitz, and Commerce Secretary Robert A. Mosbacher (page 49).

A key element of revisionism is its rejection of conventional open-trade prescriptions. Instead,

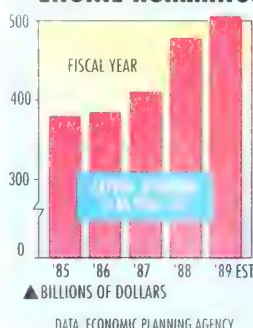
revisionists would seek guaranteed market shares or measurable results in Japan for American products that are globally competitive, such as supercomputers, semiconductors, and plywood. They would demand reciprocity in such highly protected sectors as

banking, construction, and insurance. The penalty for not complying would be swift retaliation, cutting Japanese imports to the U.S. They would also expand the concept of "voluntary" export restrictions, which now exist for such Japanese exports as cars and steel.

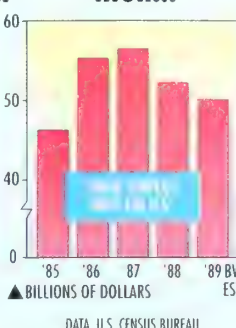
Many revisionists also want Japan to untangle its complex distribution system and reform its antiquated land-use policies, which by protecting farmers discourage homebuilding. They want Japan to abandon its purchasing and easy-lending policies among members of the same industrial group. Though far from an ironclad rule, group loyalty counts. Visiting Mitsubishi Estate-owned building, and the elevators will probably be made by Mitsubishi Electric. Go out with Sumitomo Bank executives, and they'll choose restaurants serving beer from Asahi, a Sumitomo-group company that the bank helped turn around. This mentality makes Japan's market harder to crack than most.

Revisionists talk about a new industrial policy in America in which the government would encourage research and development cooperation and set up agencies to direct international trade and industry. The planned U.S. consortium to develop high-definition television and memory chips are fruits of such strategy. "Until now, the U.S. has treated the Japan question

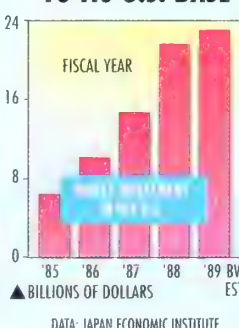
JAPAN KEEPS ITS ENGINE HUMMING...



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...WHILE IT ADDS TO ITS U.S. BASE



piecemeal, pell-mell fashion," says Kenneth S. Courtis, senior economist at Deutsche Bank Group in Tokyo. "The 1990s will see an integrated Japan policy incorporating trade, defense, aid, and technology."

The revisionist movement arrives at a juncture. Just as the Soviet Union appears less threatening, more Americans are coming to view Japan as a national-security problem. Moreover, many believe at America is losing to Japan because of fair trade practices, not just bad management and poor-quality products. As demonstrated in a mid-July BUSINESS WEEK/Harris Poll (page 51), almost 70% of the American adults surveyed termed the trade deficit with Japan a "very serious" problem. By a stunning 3-1 margin, the respondents named Japan's economic challenge as a greater threat to America's future than the Soviet military. And 68%, compared with 54% in a 1985 poll, said Japan is imposing unfair import barriers. **NEW SPECTER.** The new mood in America presents U.S. policymakers with a troubling dilemma. Many U.S.-Japanese ties are vital. But the growing economic friction threatens the entire relationship. Mike Mansfield, former ambassador to Japan, liked to say that the U.S. and Japan have "the most important bilateral relationship in the world, bar none." In many ways, that is true. Americans depend on Japan for semiconductors, machine tools, and scores of favorite consumer goods. Japan's dollars make it easier to fund the national debt—and keep Americans coming.

The Japanese in turn look to the U.S. as their largest market and strategic defender. The two countries' military partnership is crucial to the Pacific's defense and stability, and the two nations probably hold out the best hope for resolving the Third World debt crisis.

But after years of trying, the U.S. and Japan aren't getting things right when it comes to commerce (charts, page 46). The \$2 billion trade imbalance is barely down from when the dollar was strong, while over the same time, the U.S. trade deficit with Europe has halved. Aggressive Japanese investment in the U.S. is arousing alarm, and T. Boone Pickens Jr. is pointing out an embarrassing truth: It's far harder for Americans to buy big stakes in Japanese companies than vice versa.

At the same time, there seems to be a change in attitude in Japan, too. Many Japanese feel that after long years of sacrifice and hardship, they are ready to emerge onto center stage. Their per capita income has surpassed America's. Their GNP is larger than the Soviet Union's and is now 60% of America's. Many Japanese are scornful of complaints about their economy from a nation they believe to be a declining empire, and some are openly contemptuous of the U.S.

TILTING TOWARD TOUGHNESS AT THE TOKYO EMBASSY

For more than a decade, new U.S. diplomats and commercial officers in Japan quickly learned that their reports back to the States got two kinds of treatment. Under Ambassador Mike Mansfield, who retired earlier this year, a report praising Japan got priority attention and was whisked out. A mildly critical assessment, suggesting that Japan was impeding trade, could get tied up in review for weeks. Mansfield's guiding policy was to do the least damage to an ally with a vital strategic relationship. So solicitous of Japan did Tokyo-based diplomats become that American critics began to ask which side the embassy was really working for. "Beyond a doubt, the embassy there had the worst case of clientitis of any in the world," says a former Reagan Administration official.

Today, many embassy watchers and insiders detect a new approach by Michael H. Armacost, who succeeded Mansfield, 86, in early May. Armacost, 52, is a professor-turned-diplomat who most recently served as Under Secretary of State for Political Affairs.

HAWKISH? Although better versed in politics than economics, Armacost already is taking more interest in trade and commercial matters than his predecessor. He wants to beef up the presence of the U.S. & Foreign Commercial Service, the Commerce Dept. trade-promotion arm that tends to be more hawkish than the State Dept. officials who populate most embassy jobs.

Staffers say Armacost has encouraged them to read *Trading Places*, a tough analysis of Japanese commercial practices written last year by former Commerce official Clyde V. Prestowitz. And visitors from Washington say he played a strong role at bilateral trade talks in Kawana, Japan, in June. "There's not going to be a radical change," says Prestowitz, "but he will do a better job of promoting American interests than Mansfield did."

Not everyone agrees, however. Mansfield, a devoted Japanophile, was

held in such awe by the locals that it would be hard to match his clout. "His enormous prestige contributed greatly to our ability to influence the Japanese government toward change," says a U.S. official. And many share Mansfield's view that the embassy's main job is to transmit an unvarnished view of what the host government is thinking and to keep relations amicable. "The embassy operates on the assumption that Japan is a major ally and that we should try to ease tensions," says Robert Immerman, a former counselor for political affairs at the Tokyo embassy. "If Japan is no longer to be treated in an alliance relationship, let us know."

However, critics think that role can be overplayed. Classified cables from the embassy were leaked to *The New*

York Times in mid-May, presumably by frustrated trade officials in Washington, to reveal the pro-Japanese bias in the embassy. One warned that "an emotional outburst in Japan" could occur if America listed that country as a "priority" unfair trader. "U.S. influence in Japan and elsewhere will diminish" if America appears to be "flailing out in frustration at a world which will not buy our products," it said.

In some ways, the embassy itself is a house divided. All cables from it go through the deputy chief of mission, known as the DCM, who is a State Dept. official. Anything sent to the Commerce Dept. by its minister-counselor for commercial affairs at the embassy must clear the DCM. Since the Commerce view is often tougher than State's, and State wants to lead on trade, Commerce cables get changed and even stopped.

With trade in the spotlight, the embassy will only get more embroiled in the revisionism debate. Armacost will be a central figure: Insiders say he already sees himself as the embassy's chief commercial officer. Soon, the cables that get dispatched the quickest may carry a different message.

By Robert Neff in Tokyo



ARMACOST AT THE IMPERIAL PALACE



ECONOMY

Many of Japan's most important industries, including construction, remain virtually closed to foreign companies. Will the tough policies that are now being advocated in Washington by the revisionists succeed in prying these markets open?



Yet Japan has serious problems, too. While business is booming, its political system is in crisis. On July 23, voters angry with multiple scandals in the ruling Liberal Democratic Party and a 3% consumption tax dealt the LDP a crushing blow in elections for the Diet's House of Councillors. Prime Minister Sousuke Uno said he would resign, but with no clear successor in sight, Japan's ruling party is in such disarray that its foreign policy may be unguided for many months. And since the strengthened opposition parties tend to be more protectionist, the U.S. will have to tread more carefully than ever to avoid a backlash.

Political turmoil at home is distracting most Japanese from the critics in Ameri-

ca, if they were ever listening. And most of those who do listen downplay the significance of the new thinking. Some argue it is just protectionism and anti-Japanese bias in a more intellectually respectable form. Others say such views come from an outdated analysis of Japan, a country that is now changing rapidly in the direction Americans want.

Kazuo Nukazawa, managing director of Japan's powerful Federation of Economic Organizations, calls it "charlatan economics." Hidetoshi Ukawa, ambassador for International Economic Affairs, sees revisionism as "the U.S. wanting Japan to do all the changing without the U.S. doing its share" to correct its problems. But Hideo Ishihara, a managing director at

the Industrial Bank of Japan Ltd., sees something more fundamental, even dangerous. "They're trying to force us to change things intrinsic to our values. That is probably the worst situation we've ever had. We are truly worried," he says.

U.S. trade policy styled after the revisionists' agenda could spell trouble for the General Agreement on Tariffs & Trade. Although much world trade is not truly free, GATT has long held out an ideal to strive for. Now, if the world's two large trading nations deal with each other mainly outside GATT, its already weakened

framework could be crumbling down.

Even if such a scenario is just a trade official's worst nightmare, "we definitely need to start looking at Japan as something besides a free-market economy," says Michael J. Farrelly, U.S. Commerce Under Secretary for international trade and a staunch revisionist. Achieving its postwar economic miracle, Japan put producers first and foremost. That meant protecting business, discouraging competition, and directing resources and economic spoils to the corporate sector so it could conquer

world markets. Today, trade is viewed through the prism of national development and security, not consumer welfare.

It's not a question of right or wrong, fair or unfair, say most revisionists. Rather, it's a matter of fundamental divergence in economic and social structure and philosophy. Differences include definitions of "open" and "fair," what constitutes an acceptable level of government intervention in commerce, and what's permissible or not. R&D consortia, cartels, and fixed pricing, for example, have long been common in Japan but rarely tolerated in the U.S. While the U.S. allows foreigners to make industrial investments virtually at will, Japan requires them to get a permit.

Japanese society has accepted things foreign—most of its laws and institutions are adaptations from the West. But a powerful elite directed the process in an orderly, deliberate fashion. Without official sanction, newcomers and new practices are seen as threatening the predictability and consensus necessary for harmony in a densely populated island nation. "Their barriers are much more sophisticated and subtle," says Commerce Secretary Mosbacher.

Perpetuating these values and elites is an educational system epitomized by Tokyo University's law department, the we-

REWRITING THE BOOK ON HOW TO DEAL WITH JAPAN

Trade hawks in the U.S. used to occupy a lonely spot on the political landscape. Dismissed as Japan-bashers, scapegoaters, or even crypto-racists, they were pushed to the sidelines during the free-trade years of the Reagan era. Now, however, there's a growing respect.

The hardliners are becoming the intellectual opinion makers of the 1990s. In recent months, several seminal books and articles on Japan have emerged, providing a frame of reference for many American policymakers and opinion leaders to think about how the U.S. might stem its own decline. Among the works are Clyde V. Prestowitz' 1988 book *Trading Places*, Karel van Wolferen's *The Enigma of Japanese Power* (1989), and James Fallows' *Containing Japan* cover story in the May issue of *The Atlantic*.

These authors are increasingly viewed as the triumvirate of revisionism on Japan. They reject the Western tenet that capitalism and democracy are fundamentally similar everywhere. In Japan, they say, it operates along a different set of economic and political imperatives. New ways must be found to deal with it.

Chalmers Johnson, professor of Pacific international relations at the University of California at San Diego, is revisionism's intellectual godfather. His scholarly 1982 book *MITI and the Japanese Miracle* set forth a model most revisionists now embrace: Japan as a "capitalist developmental state," using the government to formulate and implement industrial policy.

TALK IT OUT. Since World War II, this policy has worked brilliantly to rebuild Japan. But the strategy, these writers argue, has led to a deeply embedded political consensus and economic structure favoring producers over consumers, with minimal reliance on outsiders. It's a system for which free trade has little relevance.

In the words of one revisionist-minded U.S. official: "Before you can solve a problem, you have to name things right." For Prestowitz, that means rec-

ognizing that Japan has invented a new type of capitalism more efficient than America's. "Rather than call them crooks and cheats for not buying our supercomputers, why not sit down and talk with them about how many they are going to buy?"

That may sound simplistic. But the message, along with Prestowitz' ideas about how to fix America's woes, have turned the former Commerce Dept. trade negotiator into practically a one-man industry in Washington. His book *Trading Places* has sold 50,000 hard-back copies in the U.S., and a paperback version is due in February. He churns out op-ed pieces, lobbies Administration officials, and cultivates journalists. U.S. Trade Representative Carla A. Hills admits to thinking "very highly" of his ideas, although she rejects his prescription of managed trade.

As a Dutchman who has lived in Japan for 25 years, van Wolferen gives perhaps the most sweeping analysis.

Yet no one interest group has the power or political will to make real changes, says van Wolferen. The Diet is impotent, and citizens have relatively few rights and little political choice. No overriding ideology prevails. The Prime Minister and leading diplomats tell foreigners what they want to hear, with no hope they will be able to fulfill the promises. "If countries find working with Japan impossible, it is because... there is no one to deal with on the other side," says van Wolferen.

CONTAINMENT. Journalist Fallows has helped popularize revisionism. He believes that Japan's global economic machine must be contained—for its own good and the world's. The former speech writer for Jimmy Carter says a stay in Japan persuaded him that managed trade is the only option. "I recognize the danger of seeming to pick on Japan," he says. "But it's an unusual economic situation... It's a special case that requires a special policy." His remedy: Fix what's wrong with the

U.S.—such as low savings, overconsumption, and bad schools—and adopt managed trade in limited ways.

He's also making high-level Japanese squirm. Perhaps because the Japanese find his articles easier reading than the van Wolferen and Prestowitz books, Fallows is better known in Japan and thus comes in for more scorn. Some senior officials at the Foreign Ministry are

known to resent deeply what they see as reckless endangerment of U.S.-Japanese relations. Ministry officials debate the wisdom of engineering some kind of response, but so far the job has been left to Japanese intellectuals.

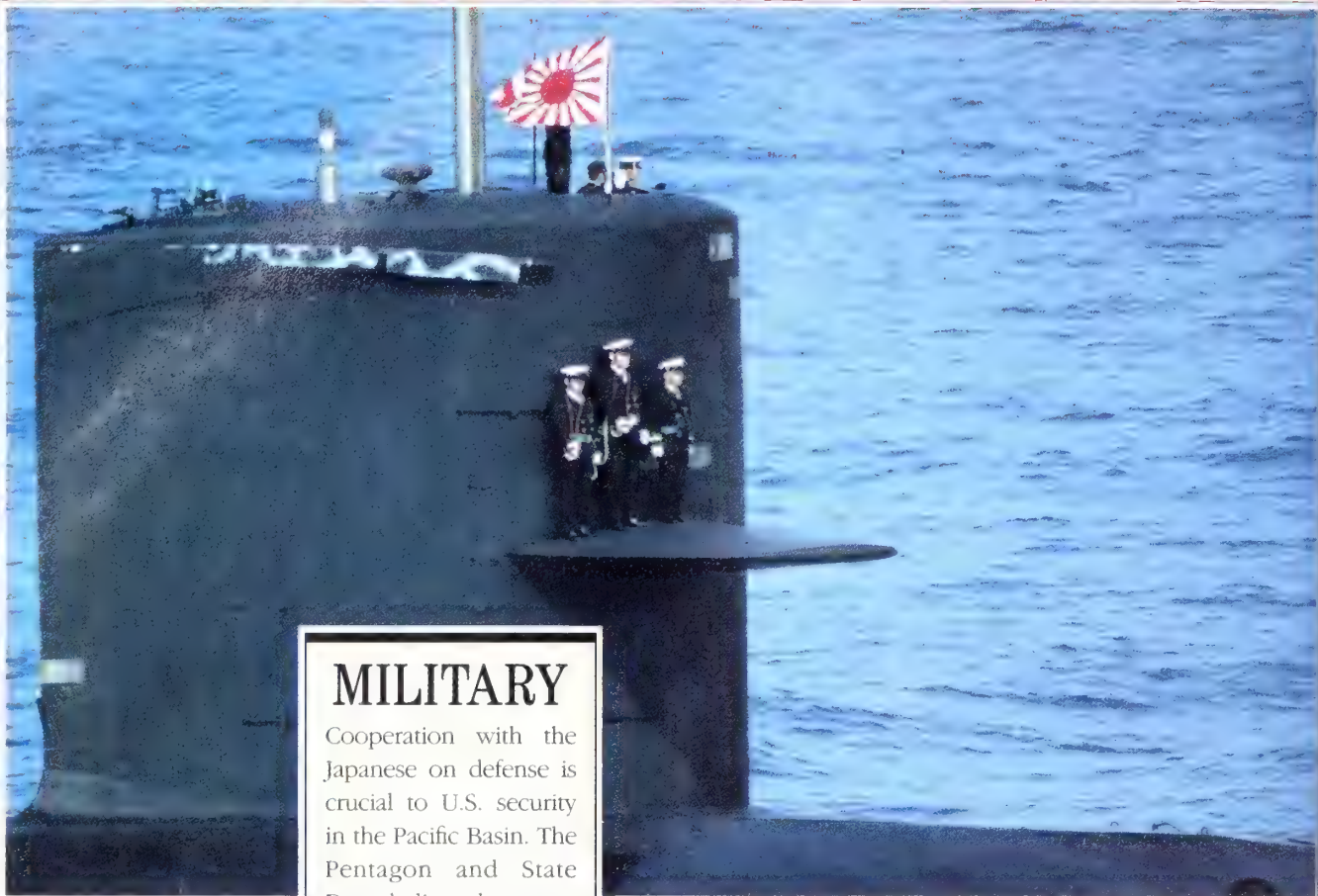
The revisionists have plenty of critics in Japan and America. Kazuo Nakazawa, managing director of Japan's Federation of Economic Organizations, maintains that "to make a consistent book, they have to throw away facts that are inconvenient." But plenty of Americans who count are otherwise convinced.

By Robert Neff in Tokyo, with Paul Magnusson in Washington



THE TRIUMVIRATE OF
REVISIONISM: AUTHORS
PRESTOWITZ, FALLOWS,
AND VAN WOLFEREN

He takes on economics, political institutions, and culture, finding less central control at work than do Johnson and Prestowitz. Basic to van Wolferen's analysis is Japan's lack of a political center. The country's "system" is a cluster of power centers and a bureaucracy with a "fabulous institutional memory and motivation." But these power groupings—big business, farmers, mass media, and political parties—are in a constant process of contention and accommodation. The common view shared by bureaucrats comes from their training: Some 80% of all top-level officials are graduates of the citadel of power, Tokyo University Law Dept.



MILITARY

Cooperation with the Japanese on defense is crucial to U.S. security in the Pacific Basin. The Pentagon and State Dept. believe that growing trade friction will threaten the strategic relationship by pushing Japan toward more military independence



spring of virtually all top bureaucrats, most leading politicians, and many top executives in Japan. If there is a power center in the country, it is this school and its extensive network of alumni. The highly managed economy is its handiwork.

Japan's Finance Ministry, for example, allows only one kind of insurance policy at one price. In banking, rules to protect small financial institutions stymie the big banks. That means that a foreign bank like Citicorp, limited to one or two new branches a year, can never hope to compete with local banks. Foreign airlines are discouraged from boosting market share with discount prices. And despite a much-vaunted accord last year to open Japan's construction business, bid-rigging still flourishes at the expense of non-Japanese contractors. With little consumer consciousness and ingrained respect for authority, few Japanese complain.

"They really are a mercantilistic society," says former Deputy U.S. Trade Representative Michael B. Smith, now a trade consultant, referring to Japan's single-minded devotion to industrial supremacy. "I don't fault them for that. I do fault them for professing they are some-

thing else." Maureen Smith, Commerce Deputy Assistant Secretary for Japan and an eight-year veteran of trade talks with Tokyo, says she has come to realize that the entire concept of free trade is disconcerting to the Japanese and antithetical to their sense

of order. "They explain that competition would cause confusion in the market."

TURF WARS. Arrayed against this "confusion" are the government's powerful ministries such as Finance, International Trade & Industry, Transportation, and Posts & Telecommunications. So eager are these ministries to protect their turf that they sometimes block politicians. Despite the LDP government's assurances that Japan's mobile-phone market was open, for example, the Postal Ministry last spring devised regulations effectively closing the door. The LDP had to use all its political muscle to get the Ministry to yield. "There's not enough political control anywhere to affect basic changes in priority," concludes author van Wolferen. "The Americans have to do it for them."

A growing number of Bush Cabinet members seem prepared to attempt just that. In an annual trade study published in April, U.S. officials listed barriers to 33

products in Japan, more than were catalogued for any other country. Under the Super 301 provisions of the Omnibus Trade & Competitiveness Act of 1988, the Administration in May categorized Japan as a "priority" unfair trader in the areas of supercomputers, satellites, and forest products. Only India and Brazil were also named. Now, the U.S. has persuaded Japan to start talking about structural impediments to trade.

Before the Bush conversion, Congress was the focal point of efforts to rethink America's relationship with Japan. As early as 1984, Congress introduced the concept of reciprocity into legislation. President Reagan signed the 1988 Omnibus Act only reluctantly.

But the Bush Administration is picking up the ball as growing numbers of hardliners, many of them Reagan-era holdovers who have learned tough lessons at the negotiating tables, assume important policymaking positions. Revisionists count among their fellow travelers such heavyweights as Mosbacher, Baker, and U.S. Trade Representative Carla A. Hills. Linn-minded officials, such as Farren, Deputy U.S. Trade Representative S. Linn Williams, Under Secretary of State Richard T. McCormick, and Treasury Under Secretary David Mulford now populate dozens of key sub-Cabinet posts. Some observers

WHAT AMERICANS THINK OF JAPAN INC.

Bad news for Japan: Americans are worried about the U. S. trade deficit—and they know whom they blame. Fully 69% of the public think the trade imbalance with Japan is a serious issue. Although many believe that the quality and price of American exports to Japan are at fault, still more—68%—think Japan is imposing unfair barriers to U. S. products. That's up from 54% the last time we asked that question, in March, 1985. How to remedy the situation? Protectionism and trade sanc-



tions, Americans say by a wide margin. They favor targets for American exports to Japan and tariffs and quotas on Japanese products in the U. S. And they say they're willing to put their wallets where their sentiments are: Fully 66% would pay more for a domestic product than for a Japanese import of equal quality. And there's good news for Gorbachev: A stunning 68% of the public think Japan's economic might is a greater threat to our future than the Soviet Union's military might.

JAPAN ENVY

■ How much admiration do you have for . . . ?

	A great deal		Some	Not very much	None at all	Not sure
Japan as a nation	25%	48%	15%	9%	3%	
Japan's economic success	49%	29%	12%	7%	3%	
The Japanese people	32%	48%	10%	6%	4%	

FEELING UNBALANCED ABOUT TRADE

■ This year, the Japanese will sell \$55 billion more in products to the U. S. than the U. S. will sell to Japan. How serious do you feel it is that Japan is selling so much more to the U. S. than the U. S. is selling to Japan—very serious, somewhat serious, not very serious, or not serious at all?

Very serious	69%
Somewhat serious . . .	23%
Not very serious	4%
Not serious at all	2%
Not sure	2%

POINTING THE FINGER AT TOKYO

■ While Japanese companies do better selling products in the U. S., American companies have had trouble selling their products in Japan. Do you think these troubles are or are not the result of . . . ?

	Are result of	Aren't result of	Not sure
U. S. products not being as good as Japanese products	38%	59%	3%
U. S. products being too expensive	57%	40%	3%
Japan imposing unfair barriers to imports from the U. S.	68%	20%	12%

CALLING FOR A CRACKDOWN

■ Here are some measures that the U. S. might take to make the Japanese markets more receptive to this country's products. For each, tell me if you favor or oppose that measure.

	Favor	Oppose	Not sure
Require that a certain amount of U. S. products be allowed into Japan	79%	19%	2%

Impose higher tariffs on Japanese products coming into this country

Favor	Oppose	Not sure
61%	35%	4%

Put a limit on the amount of Japanese goods allowed into this country

69%	29%	2%
-----	-----	----

Restrict the outflow of technology from the U. S. to Japan

59%	37%	4%
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A QUESTION OF QUALITY

■ If you were in the market for a major purchase, and you had a choice between a product made in Japan or one made in the U. S. by an American company, which do you think would be a better quality product—the one made in Japan or the one made in the U. S.?

One made in Japan . . .	32%
One made in U. S. . . .	45%
Both equal	4%
Depends on product . .	16%
Not sure	3%

BUYING AMERICAN

■ Now, suppose the products made in Japan and the U. S. were equal in quality. Would you be willing to pay more for the product made in the U. S. or not?

Would pay more for U. S. product	66%
Would not	28%
Depends on how much more	6%
Not sure	0%

MOVE OVER, SOVIETS

■ If you had to say, which do you now think is a more serious threat to the future of this country—the military threat from the Soviet Union or the economic threat from Japan?

The military threat from the Soviet Union	22%
The economic threat from Japan	68%
No difference	5%
Not sure	5%

Edited by Mark N. Vamos

Poll of 1,250 adults conducted July 7-11 for BUSINESS WEEK by Louis Harris & Associates Inc. Results should be accurate to within three percentage points.

put new Ambassador Michael H. Armacost in the same category.

Congress is still in there slugging, too. Always a hotbed of protectionist fervor, it is discovering that the revisionist school offers a respectable alternative to smashing Toshiba boom boxes on the steps of the Capitol. In addition, the Democratic leadership of both houses is increasingly populated by trade hawks. House Majority Leader Richard A. Gephardt (D-Mo.), who ran a faltering Presidential primary campaign on Japan and the trade deficit, is now pursuing the issue with more so-

giving a 14-year tax holiday to Mazda Motor Corp. Kentucky's \$150 million incentive package for a Toyota Motor Corp. plant helped former Governor Martha Layne Collins lose office. Workers at Nissan Motor Co.'s plant in Smyrna, Tenn., are locked in a bitter drive for a union. The view that integrating Japan into the U.S. economy is unquestionably good has hit some rough water.

As would any revisionist movement, this one has plenty of detractors. "The notion that Japan operates according to different rules is such garbage that it

warring with the Commerce Dept., insisting nothing be allowed to jeopardize its strategic relationship with Japan. How extensively the new thinking will affect policy, and in what form, is still an open question.

But there are good reasons to think revisionism will endure and even prosper. David Hale, chief economist at Kemp Financial Services, predicts that a switch to a more activist agenda is likely for the 1990s. After a decade of laissez-faire policies, America's infrastructure, education, relative productivity, and quality of life have declined. Congress, alarmed at the balance-of-payments crisis, has pushed itself permanently into international economic policymaking.

In fact, pressures are likely to intensify. Japanese industry is spending heavily to produce more goods for world markets with capital investment in Japan topping that of the U.S. for the first time last year. Japanese investment in U.S. plants is also proceeding apace, pulling in massive imports of Japanese capital goods with it. As the American auto market

slumps, Japanese carmakers, obsessed with market share, are expanding their Stateside dealer network.

Still, the Japanese do claim to be making some progress toward mollifying the U.S. Their imports of manufactured goods will probably exceed \$100 billion this year, up from \$59.6 billion in 1987. And Japan's GNP growth is currently coming entirely from domestic demand. "Things are changing rapidly in Japan," former Foreign Minister Saburo Okita wrote in *Japan Times* recently. "I wonder if the current problems are rooted in Japanese

peculiarities or in the fact that our two countries are at different stages of development."

If revisionism is here to stay, both sides must somehow bridge the economic gap without destroying the broader partnership. "Don't assume that Japan isn't going to lash out," warns Yoshi Tsurumi, professor of international business at Yenching College in New York. "Many Japanese will say, 'Let's say no to the U.S.'" The revisionists argue that's mostly rhetoric and at any rate, the U.S. can no longer afford to back down. In Tokyo, they call the new mood *tsumetai kaze*—a cold wind. The challenge for both countries now is to keep it from becoming a storm.

By Robert Neff in Tokyo and Paul Munson in Washington, with William Holstein in Yokohama



THE ELITE

Political consensus and industrial policy are shaped by Japan's bureaucratic elite, most of whom are graduates of Tokyo University law department. Their goal, the revisionists claim, remains global economic domination

phistication: He's even studying Japanese. Senator Lloyd Bentsen (D-Tex.), chairman of the powerful Senate Finance Committee, which has jurisdiction over trade matters, is a trade hawk of long standing. Add to that mix Senator John Heinz (R-Pa.), an advocate of results-oriented trade, Senator John C. Danforth (R-Mo.), and practically the entire Finance Committee membership.

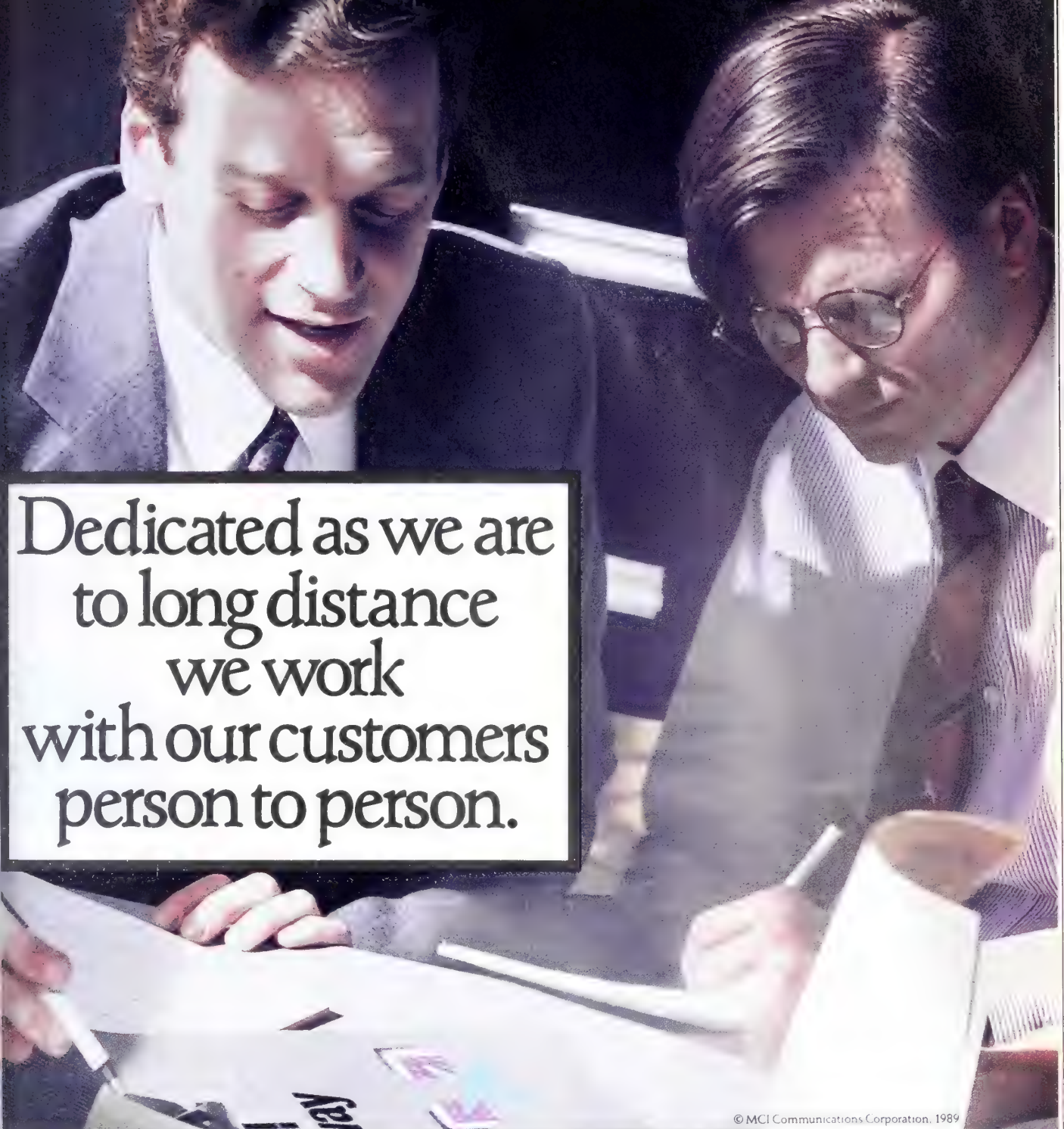
The shift in thinking extends beyond Washington. In February, a blue-ribbon business-labor group, the Advisory Committee for Trade Policy & Negotiations, issued a pithy, widely noted report that jumped on the revisionist bandwagon, calling for tough results-oriented trade negotiations. "It's a landmark. Those are mainstream, Establishment business people," says Commerce's Smith. Among the high-powered executives in the business group are James D. Robinson III, chairman of American Express Co., and James R. Houghton, CEO of Corning Inc.

More important, there's growing popular support for a harder line on Japan. In many cases, large-scale Japanese investments in the U.S. haven't created the benefits many expected. Voters in Flat Rock, Mich., threw out their mayor for

should be dismissed out of hand," says James C. Abegglen, a savvy management adviser to U.S. and Japanese companies in Tokyo. Others say the new thinking reflects resentment that America is no longer king of the mountain. Some even call it "Yellow Peril Revisited."

OPEN QUESTION. Trade Representative Hills, too, while part of the new get-tough school, is wary of some of the prescriptions favored by congressional revisionists. She is opposed to demanding a percentage share of Japan's market but favors pressure for imports that seem to sell well in other countries yet can't find many buyers in Japan. "Those who believe in managed trade to secure a percentage of a market are selling us short, demanding that we make do with what we can get," Hills says. She emphasizes reducing the federal budget deficit as a way of reducing spending for imports and raising U.S. savings.

Indeed, revisionism is still locked in a struggle with more conventional thinking. The State and Defense departments are



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SHANGRI-LA OR SUN-BAKED WASTELAND?

Once-flourishing Oppenheimer Industries is down to its last ranch—and it must sell that

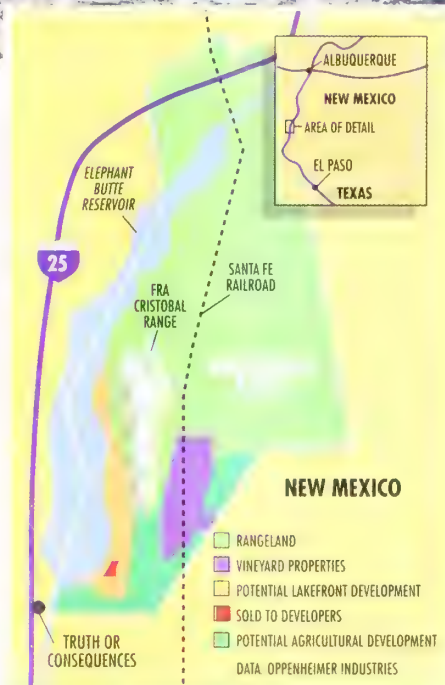


AT THE RANCH: BRIGHT VISION OR A MIRAGE?

When early Spanish colonists first trudged through the stretch of central New Mexico that is now the Armendaris Ranch, they cavalierly ignored the imperatives of real estate marketing and named the region the *Jornada del Muerto*—the Journey of Death. Even today, it's a lonesome stretch of high desert, a landscape of greasewood and chaparral inhabited by cattle, jackrabbits, and coyotes. There is little nightlife, except at the Jornada Bat Caves. It's an unlikely setting for a corporate drama—but then again, Oppenheimer Industries Inc., the landlord, is an unlikely company.

For decades, Oppenheimer Industries was the nation's leading name in tax-sheltered agricultural investments, catering to an array of wealthy Hollywood stars. When tax shelters went sour in the mid-1980s, Oppenheimer billed itself as a land-development company—with the ranch its star attraction. Wall Street was dazzled. But ambitious plans for the 350,000-acre ranch have not borne fruit. Oppenheimer is in sad shape, and the company's shareholders have seen their stock drop 70% from its peak in 1986.

The company's recent history is a case



study of the perils inherent in an increasingly popular Wall Street strategy: investment in companies holding "undervalued" real estate. The payoff comes when the value is realized—sometime in the future. Well, at Oppenheimer Indus-

tries, the future has come to pass—the New Mexico desert.

Oppenheimer Industries' current plight would have been unimaginable when the ranch was purchased in the late 1960s. The CEO was a brigadier general in the Marine Corps reserve named Harold L. Oppenheimer, an authority on agribusiness topics—including land speculation. The general's stepfather had been the late MCA Chairman Jules Stein, and that connection proved invaluable. **INFLATION HEDGE.** In the early 1950s, Oppenheimer Industries became the nation's leading operator of cattle tax shelters by dint of a client list that included such Hollywood notables as Jack Benny, Richard Widmark, and Alfred Hitchcock, who held 45% of a partnership that owned the ranch when the general bought it. The plain-spoken Oppenheimer scorned get-rich-quick land promoters and expounded upon his cautious, pragmatic investment philosophy in several books. According to the current CEO, William R. Ball, the general put little money into the ranch and held it as a long-term hedge against inflation.

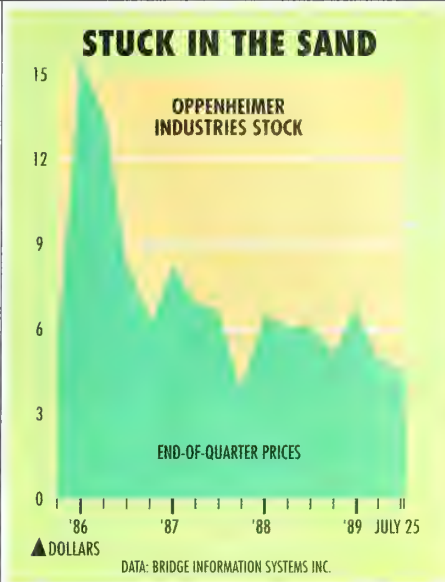
The Kansas City-based company reached its zenith early in 1986. The gi-

l had just died, the longtime tax-shelter businesses were doomed by tax reform, but it seemed that new management, headed by his son Hamilton G. Oppenheimer, was destined for great things. Wall Street had just fallen in love with another asset play, Tejon Ranch Co., and was hungry for more. In March, 1986, Oppenheimer stock tripled in value, to \$18 a share. But as time passed and the ranch remained undeveloped, stock prices fell, recently to as little as \$4.50 a share (chart).

Today, Oppenheimer has reached yet another juncture—and this time, the company asserts, stockholders won't be left in the lurch. On June 2, the company came up for sale its real estate holdings, effectively the ranch, announced that it was seeking merger or sale of the company, and disclosed that Tony Oppenheimer was resigning. "Our plan is to sell all or part of our assets and, with the proceeds, make a distribution to our shareholders," Ball stated in an interview. The CEO says the asking price for the ranch alone is \$30 million, or \$7 a share. In a merger, the company is worth perhaps \$10 a share—with the ranch accounting for 80%—contends director Henry J. Ameral, assistant treasurer of Harvard University, one of the few institutional owners of Oppenheimer stock. But that goes out the window, Ameral thinks, if the company undergoes a Chapter 11 bankruptcy reorganization—which he considers unlikely.

FINANCIAL EFFORT. Indeed, Oppenheimer is going into debt and must sell the ranch quickly—something that is unlikely to encourage high prices. Though it has diversified into ventures ranging from horse insurance to construction, Oppenheimer is running in the red and has had to raise cash by taking out a \$4.8 million second mortgage on the ranch, in addition to the existing \$2 million first mortgage. The second mortgage is for one year, extendable by the company to two years—and Ball admits that he doesn't know what he will do if the ranch isn't sold by then.

In fact, Oppenheimer has been struggling to derive value from the ranch in nearly four years of intense effort. It's not hard to see why success has been elusive. In summer, the ranch takes on the stifling ambience of a place where you could set off an atomic bomb and no one would notice. As to prove the point, the first bomb was detonated in 1945 just next door, at White Sands Missile Range. The ranch's saving grace is its lengthy frontage on Elephant Butte Reservoir, the largest source of water in New Mexico



(map). Early plans called for the lakefront to be dotted with 1,000 homes in "villages of French, German, and Spanish motifs." While nothing ever came of all that, company execs still say the site is ideal for high-priced retirement homes, a resort with a nine-hole golf course, even a European-run health spa where wealthy Continentals would come to enjoy the area's sulfurous waters. Enthusiases Oppenheimer Senior Vice-President Lawrence E. McMillin: "It's just a big keg of dynamite ready to explode."

The fuse, apparently, is damp. But not for lack of dryness, for Oppenheimer

holds no water rights that would allow developers to tap into Elephant Butte or drill wells except for homesites. And the site is hardly proper for a resort. The nearest town is Truth or Consequences, a down-at-the-heels retirement community that is a three-hour drive from Albuquerque and has little distinction—except being named after a quiz show. Once one has gone boating on the lake, and seen the Ralph Edwards wing of the museum, there isn't a heck of a lot to do.

FRUIT GROVES. True, seeds of residential development have sprouted on the 545-square-mile ranch—but they seem unlikely to grow beyond the sapling stage. Back in 1985, land was sold to developers for an upscale subdivision overlooking the lake called Champagne Hills. It has hardly been a smashing success. Fourteen of 36 lots remain unsold, and only three houses have been built—two part-owned or subsidized by the developer. Realtors say the market for high-class retirement homes is thin. Moreover, much of the lakefront may simply be off-limits to future developers. The Interior Dept. claims that 34,000 acres of ranch at the reservoir—not including Champagne Hills—is owned by the government, not Oppenheimer.

Agricultural development of the ranch's vast plains—dubbed the Armerdaris Valley to replace the Spanish monicker—is equally remote. The company claims that some 40,000 acres of ranch land can be turned into vineyards or fruit groves. And grapes and wine are indeed being produced on "valley" land that was sold to Swiss, French, and German winemakers in the early 1980s at prices believed to have ranged from \$250 to \$700 an acre—for land that's on the company books at \$26 an acre.

But future buyers might well be deterred by their predecessors' travails. Without water rights of their own, the vintners had to pipe in water from the reservoir, 20 miles away. That's expensive—\$360 an acre per year—and the water is only available for another 17 years. In the view of William D. Gorman, professor of agricultural economics at New Mexico State University in nearby Las Cruces, would-be fruit-growers should stick to the rich, irrigated farmlands nearby in Deming and Las Cruces. His verdict on the vineyard properties is harsh: "The value of that land out there with the high cost of irrigation," says Gorman, "is less than zero."

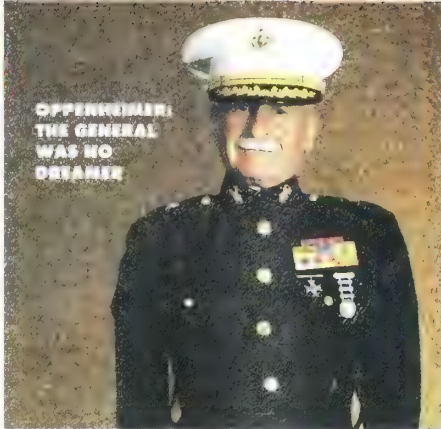
Even if Oppenheimer succeeds in its strenuous efforts to get water for the ranch, other problems remain. The weather is capricious, with unusual frosts causing some vineyards to lose up to 90% of their



Finance

crops, and the soil has had mixed reviews. Oppenheimer's 10-K annual report describes "excellent soils which once were the riverbed of the Rio Grande River." Some vintners agree. But others say the land is salty and laden with a substance called caliche that hampers grape-growing. Michael Weiss, general manager of German Wine Growers Corp., observes that "if a grape can survive in such soil, it's a healthy grape."

DISAPPOINTMENT. Understandably, the vintners have planted just 1,200 of their 23,000 acres. Like Oppenheimer, they want to sell at least some of their holdings—if they can find buyers. "[The winemakers] are all looking for somebody to come into it as a partner or to buy the whole thing, if they get the right offer," notes Weiss. Yet Oppenheimer shareholders may be ignorant of the vineyard troubles. The last two annual reports include maps showing all 23,000 acres as "existing European vineyards."



If past is prologue, Oppenheimer may only be able to sell the ranch at somewhere near its asking price by luring a buyer from overseas—where folks pay less attention to Southwestern peculiarities such as water rights. Ball says Oppenheimer came within a hair's breadth of selling the desolate northern portion of the ranch to a Japanese buyer for \$18 million. "He'd get out of the helicopter and get down on his knees and feel the

soil," recalls Ball, who wouldn't identify the man. But the deal fell through. It was a crushing disappointment for Oppenheimer's beleaguered manager. "They're not ranch people," says a source familiar with the company at the ranch. "The general could sit down and figure out some way to do this. Goddamn if I don't think they're going to lose [the ranch]." Shaking his head, he adds: "Running cattle may be the highest and best use of this ranch."

General Oppenheimer may have said the best: "There is no magic to the acquisition, processing, and merchandising of land," he wrote in his 1966 book, *Cowboy Economics*. "It is much like any other commodity." If investors have viewed Oppenheimer's star holding as the commodity it actually is—a ranch in the desert—they would have spared themselves a lot of grief.

By Gary Weiss in Kansas City, with Sandra D. Atchison on the Armendaris Ranch

CORPORATE FINANCE

HOW KKR STUBBED ITS TOE

Its SCI TV deal is in trouble—and bondholders are the losers

Since 1976, Kohlberg Kravis Roberts & Co. has put together \$62 billion in leveraged buyouts of 35 companies, bringing in billions of dollars for their investors and themselves. But now SCI Television Inc., a pesky, \$1.2 billion deal, can't meet its interest payments and may soon ask creditors for relief. KKR is a minority investor in this collection of six network television stations, along with a majority partner responsible for operating them. While a couple of earlier KKR deals had to be restructured, this is by far the largest one to go sour.

This tale of leverage gone awry began with KKR's lucrative \$2.5 billion buyout of Storer Communications Inc. in 1985. Two years later, KKR sold Storer's crown jewels, its fast-growing cable TV properties. KKR had a harder time peddling the lower-growth broadcast properties, which it christened SCI Television. George N. Gillett Jr., who owns the ski resort of Vail, Colo., three NBC affiliates, and a meat-packing plant, agreed to buy 55% of the TV operation. KKR held on to the remaining 45%.

PRECIOUS CASH. The \$1.2 billion KKR and Gillett paid for SCI TV in 1987 was a lofty 14.7 times 1988 operating cash flow. KKR and Gillett were betting on a continuing

boom in TV properties. In retrospect, they bought at the peak: Broadcast stations now sell for only 11 times operating cash flow. This bollixed their ability to sell the TV stations individually to meet interest payments. For example, when the \$157 million sale of Cleveland's WJW-TV was recently called off, SCI TV

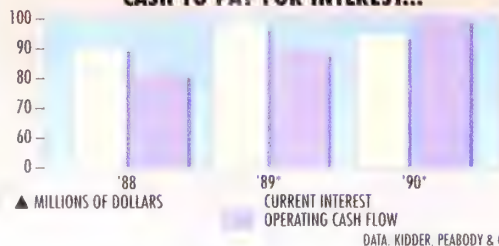
ers to pay interest with more of the same junk bonds for several years. That saves precious cash but ratchets up debt. For example, \$200 million in PIKS issued in October, 1987, will soar to \$310 million due in October, 1990. The result: "You have a five-pound bag and 10 pounds of garbage," says a top investment manager. KKR declined to comment.

The biggest losers are SCI TV bondholders, as well as their bankers. Already, owners of SCI TV junk bonds have lost as much as \$250 million in market value. Meanwhile, KKR and its investors won't get stung. KKR has \$222 million at stake, but its \$780 million profit on Storer cable properties would more than offset any loss.

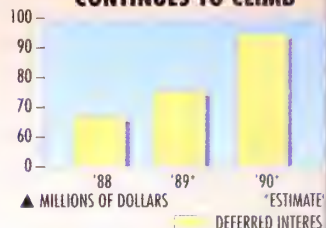
As for KKR's reputation: "It is

SCI TV'S CASH CRUNCH

IT HASN'T YET GENERATED ENOUGH CASH TO PAY FOR INTEREST...



...AND ITS DEFERRED INTERESTS CONTINUES TO CLIMB



fell short of the \$153 million due its banks in September. "There is going to have to be some conversation regarding a restructuring," says Gillett.

SCI TV's ballooning debt compounds the problem. Consider the \$300 million in PIKS, payment-in-kind bonds, underwritten by Drexel Burnham Lambert Inc. These hybrid junk bonds allow borrow-

means that when Henry Kravis ran into his creditors socially, they'll give him grief," says a competitor. But a nagging question remains: Of the hundreds of deals done by KKR and others, how many have been built on rosy forecasts and too much leverage?

By Leah J. Nathans in New York, and Dean Foust in Atlanta

WALL STREET: ON THE ROAD TO 2700

The market may even be stronger than the Dow suggests

When the first half of 1989 came to a close, most Wall Streeters left for a long fourth of July weekend convinced the market had seen its highs for the year. The best strategy was to spend the summer at the beach. The Dow Jones industrial average had failed to hold the 2500 level, and the six-month gain was already a nifty 12.5%. Now, less than a month later, the Dow is sizzling again, rising at 2613 on July 26. And many think the rally is set for an assault on 2722, the old high.

"This market is going higher," proclaims Robert B. Ritter, stock market analyst for Ladenburg, Thalmann & Co. "There are any surprises, they will be on the upside." While many analysts and portfolio managers are not dumping their stocks, they are as unabashedly bullish as Ritter—which may be a key ingredient fueling the market. A runaway euphoria is in sight, and that's always good for stocks.

ENDING SOFTLY. And the market is even stronger than the Dow Jones industrial average suggests. Ten of the 30 Dow stocks already have passed the peak they reached on July 25, 1987—the Dow's all-time high. At the blue-chip average, up 7% in July, only now catching up with the rest of the market. The Standard & Poor's 500-stock index, at 338, broke through the 1987 high on July 26. Over-the-counter stocks as measured by the NASDAQ composite are just over 1% away. The Dow transportation average is 15.4% above its 1987 high, owing to takeovers in the airline industry.

Of course, further gains will prove tough. On Wall Street, records are often psychological barriers, and traders try to get in advance of them. "Getting beyond 2700 on the Dow is like crossing the

Rubicon," warns Laszlo Birinyi of Birinyi Associates. "We'll make a new high this summer," predicts Byron R. Wien, portfolio strategist for Morgan Stanley & Co. But Wien says the market will fall back several times before the old ceiling becomes the new floor.

The road to 2700 will be prone to bigger swings in prices, too. As the market has heated up, so has program trading. "Any spills in the market will be swift

Mergers continue to shrink the supply of equities. The last time the overall market was near these levels, the total market capitalization of U.S. public companies was about \$3 trillion. Now, the value of U.S. stocks is only \$2.5 trillion. With less supply, a slight pickup in demand for equities will bolster prices.

BIG GAINERS. All told, even if stocks seem high, the alternatives are less attractive. "Precious metals are uninteresting, real estate's prospects are poor," says Robert Stovall of Stovall/Twenty-First Advisors. As interest rates ease, he says, "bonds and CDs won't look very scintillating. You might as well be in equities." Indeed, investors are starting to come around to that thinking. Investment adviser Martin E. Zweig says second-quarter earnings at the big brokerage firms are looking better because of a pickup in individual investor activity, and sales of equity mutual funds recently turned positive for the first time since the crash.

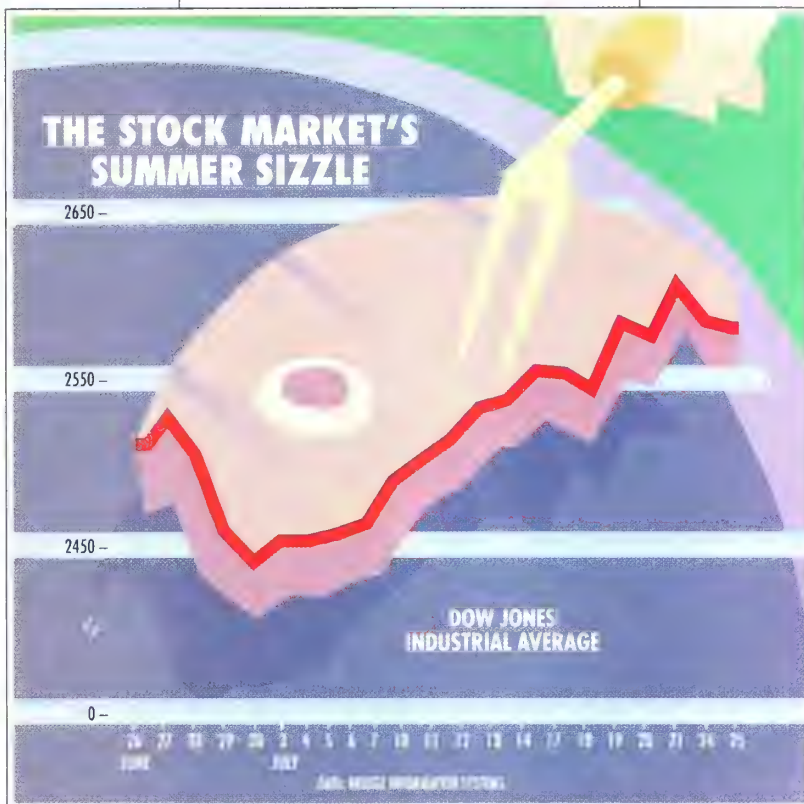
If equities are the place to be, which ones do you buy? Over the past several months, falling interest rates have given big boosts to utilities and financial stocks. And the biggest gainers of the year have been consumer-goods companies such as Coca-Cola, Walt Disney, Philip Morris, and Procter & Gamble. That's because investors who want to be in equities are nonetheless fearful of a slowing economy or a recession and are sticking to companies that can prosper even in a downturn.

The conventional wisdom cautions investors to stick with the strength: consumer stocks. For now, that wisdom could be right.

A shift to cyclical or technology stocks, which have been left behind by the market's hot action, is ill-advised at a time when the economy is slowing.

However, Richard L. Evans, research director of *Dow Theory Forecasts*, says the surging market averages are signaling a better economic climate than most analysts are forecasting. In that light, Evans says the best values on Wall Street lie in downtrodden stocks such as IBM, Digital Equipment, and Hewlett-Packard. They way he figures it, they are a lot like the market—there's no place to go but up.

By Jeffrey M. Laderman in New York



and scary, but also of short duration," says Marshall Front, executive vice-president of Stein Roe & Farnham, a mutual fund and investment manager.

Front remains confident in the market's ability to sustain a new high because the environment is far different than it was two years ago, when the Dow was last in these climes. Interest rates are lower, the dollar is stronger, earnings are far higher, and price-earnings ratios much lower than in 1987. Inflation is easing and not rising. And the long-hoped-for "soft landing," in which the economy slows but doesn't sink into recession, looks more like reality.

WARREN BUFFETT MAKES MONEY BY MAKING NICE

His \$600 million friendly stake in Gillette benefits both sides

Photographs of Warren E. Buffett don't yet show him suited in armor, perched on his steed. That might be the right picture soon, though, if he keeps charging ahead with deals like the one he swung with Gillette Co. on July 20. Berkshire Hathaway Inc., the holding company controlled by the renowned investor, bought \$600 million of Gillette convertible preferred shares—a move that could place a hefty 11% of the razor maker's common stock in Buffett's friendly hands.

Buffett made his name as a disciple of authors Benjamin Graham and D. L. Dodd, whose *Security Analysis* preached the value of buying stocks at low book values and price-earnings multiples. By that standard, Gillette hardly measures up. Its stock is trading at a fully valued p-e of 17. Then again, investing *a la* Graham and Dodd doesn't include taking advantage of opportunities that arise when executives are battle-weary from fighting takeover attempts.

TANTALIZING READ. That's where Buffett is writing a new chapter: *How to Succeed in Business as White Knight*. Buffett played that role two years ago when he aided Salomon Brothers Inc. Chairman John H. Gutfreund in beating back raider Ronald O. Perelman. Last April, while reading Gillette's annual report, he saw things he liked: a world-class brand name with a steady cash flow—and a pressing need for capital. To fend off raiders, the Boston-based company had piled on debt—some \$600 million in floating rate notes and \$1 billion more in long-term debt, shriveling equity by about 92%, to \$45 million as of June 30.

Graham and Dodd might have been put off by a vanishing book value but not Buffett. "Over the years, I have come to value underrated consumer franchises more and more," he says. So he called up his friend Joseph J. Sisco, a Gillette board member, to propose "an equity issue that might make sense."

It certainly does for Buffett. The 8.75% interest on his preferred shares is

almost as secure as a bond's. And after two years, each \$1,000 of the preferred may be converted into 20 shares of common, a right he retains for ten years. That means he can buy the common shares at \$50. Analysts value that right at \$7.50 per share, so the conversion value of each preferred is worth \$150 (20 times \$7.50). So his real cost was only \$850 for a preferred



**BUFFETT:
AN EYE FOR
THE VALUE OF
A BRAND NAME**

BERKSHIRE'S BIG HOLDINGS

Company	Stake*
GEICO	44.0%
CAPITAL CITIES/ABC	18.5
WASHINGTON POST	16.0
SALOMON BROTHERS	12.3
GILLETTE	11.0
COCA-COLA	3.8

*Percentage owned or controlled
DATA: BERKSHIRE HATHAWAY INC. ANNUAL REPORT

to Gillette. The proceeds will be used to retire \$590 million of floating-rate debt with an aftertax cost of \$48 million. Since Gillette will owe Buffett \$52.5 million a year, cash flow will shrink \$5 million—a small price for securing the right of first refusal and getting a deal done so quickly, says Gillette Chief Financial Officer Thomas F. Skelly.

Buffett's involvement already seems to have paid some dividends. Gillette shares have advanced two points since the deal closed, to 44% on July 26. Institutional investors believe the company gains from having Buffett, a long-term investor who will join the board.

NO SURPRISES. Buffett's investment in Salomon Brothers shows how fireproof his white-knight strategy can be. He promised to keep friendly his 12.4%

stake in the investment bank. And with Gillette, he promised Salomon the right of first refusal should he decide to sell—so long as the investment bank can come up with the cash to match a third party offer. Buffett bought \$700 million of convertible preferred stock at 38. Taking into account the co-

version option, Buffett's effective cost was much lower than Salomon's then-market price of 32.

Looking back, though, Buffett didn't get his Salomon stake at a knockdown price. The market crashed three weeks after the deal was signed, propelling Salomon's stock to an eventual low of 16. But Buffett has a cushion thanks to other Salomon shareholders later. He has collected nearly \$126 million in dividends in two years, at a rate of return not far below the market for high-grade corporate bonds. Salomon's common stock has rebounded, to 25%, and the firm just posted record net income of \$253 million for the second quarter.

Buffett refuses to characterize his profitable chivalry as the moves of a white knight, claiming the term doesn't apply to his investments. He says he is looking for businesses that need capital, where he can buy a large piece. "If you're right on the business, you'll be right on the stock," he says. If not, a fat dividend can sweeten the pain.

By Laura Jereski, with Keith H. Henricks, in Boston

GARY WEISS

CATERPILLAR COULD TURN INTO BUTTERFLY

Caterpillar Inc. hasn't won any friends on Wall Street of late. Shares of the giant earth-moving equipment company have been mired in the mud ever since it announced in January that it would increase capital spending by 40%, to almost \$1 billion in 1989. The move is likely to keep earnings gains to a minimum this year—a step that Cat management is willing to take to keep its competitive position in world markets. But investors, wary of technicals anyway, were in no mood for such talk. As a result of recent share price declines, Caterpillar has been trading at about 57% a share, or 10 times earnings, well below the 13 p/e of the Standard & Poor's 500-stock index. But despite the Street's chilly reception, some savvy investors feel that Cat is on the right track, and are buying the company's shares on weakness. The theory is that the current, flabby price of the shares has already discounted the possibility of a recession, but not taken into account the future benefits that are likely to flow from the company's bold gamble. And with evidence mounting that a recession is in the cards, Caterpillar looks more like a butterfly than a moth. "I'd rather see the company buy equipment than buy back its stock," observes David O. Rajala, director of equity management at One Federal Asset Management Inc. in Boston, which has been accumulating Cat shares.

RECESSION RISK. Rajala concedes that upgrading its factories and developing new products, Cat is exposing itself to hardship should the nation slide into recession. But the company's customers in the forest products, farming, and mining industries are expected to keep demand up. Indeed, the beefed-up capital spending should enable Caterpillar to eke out some gains, even if the economy ebbs, by gaining market share at the expense of competitors. Rajala does not feel that the Peoria-based company faces anywhere near the risk it faced earlier in the decade, when losses mounted from 1982 through 1984. Moreover, its extensive overseas operations make the company well positioned if the dollar weakens. Besides the U. S. represented 50% of revenues in 1988.

CATERPILLAR'S STOCK HAS GONE NOWHERE



Historically, machinery companies such as Caterpillar trade at a level of at least the market's price-earnings multiple. And that should be good news for Cat, if its earnings hold up as expected. Rajala expects 1989 earnings to be about flat this year at \$6 a share, but then rise to \$7 a share in 1990. Assuming that the market's price-earnings multiple holds steady at 13, a return to favor could easily boost Caterpillar to \$90 a share in the coming year.

OUT FRONT IN THE BLOOD BUSINESS

A unique niche in medical technology—blood—has been carved out by PSICOR Inc. The San Diego-based company bills itself as the nation's leading provider of cardiovascular technology to hospitals, with 250 institutions under contract. This relatively obscure outfit dominates a burgeoning field that is flourishing despite the governmental and private cost constraints. And it's starting to attract value-hunting investors such as Lawrence Auriana, manager of the top-performing Kaufmann Fund, which specializes in small-cap stocks.

Basically, PSICOR is in the rent-a-perfusionist business. Perfusionists are the skilled technicians who operate the heart-lung machines that collect, cleanse, and then recirculate a patient's blood during open-heart surgery. They also oversee the "auto-transfusion" procedures that recirculate blood during other types of surgery. For a standard fee per procedure, the company provides the technician and the equip-

ment. That spares the hospital the capital expense of a heart-lung machine, not to mention the salary of a full-time perfusionist.

PSICOR's services are increasingly in demand as perfusionists become more scarce, as the number of heart operations increase, and as fear of AIDS makes auto-transfusions more popular. The company's earnings nearly doubled to 51¢ a share in the year ended last Sept. 30. In the coming year, Auriana expects profits to rise to 65¢ a share, with 80¢ his estimate for 1990. The stock is at 10¼ and has traded as high as 13½. Institutional investors own a mere 15% of PSICOR's shares.

PERKIN-ELMER: IN FIGHTING TRIM?

Restructuring is one of the buzzwords on Wall Street, and when a company embarks on a campaign to sell assets, slash overhead, and "boost shareholder values," investors usually respond. But when Perkin-Elmer announced its plan in April, the news couldn't even shake the stock out of its trading range in the mid-20s. Now at 27%, the stock is a steal, says Harvey Eisen, president of Integrated Resources Asset Management, who has been on a hot streak for several years. And Eisen is hot on this Norwalk (Conn.) manufacturer of scientific instruments and equipment.

Eisen estimates that the three divisions that Perkin-Elmer placed on the block—semiconductor equipment, defense systems, and avionics—will fetch about \$450 million. Add to that an estimated \$30 million that should come from the sale of the company's excess real estate in tony Fairfield County, Conn. Together, that should generate about \$12 a share in cash—which management has promised to return to shareholders either through a self-tender or a special dividend.

What's left? Perkin-Elmer's core and most profitable businesses—scientific instruments and materials technology. The instruments group is especially attractive, says Eisen, because its customers are in the booming environmental service, biotechnology, and pharmaceutical industries. Both divisions have 15% annual growth rates, he says, and could earn about \$2.40 a share in the June, 1990, fiscal year, and \$3 in 1991. All told, Eisen figures that the stock should climb into the low 40s during the next 12 months.

By Jeffrey M. Laderman

WANT SHELF SPACE AT THE SUPERMARKET? ANTE UP

Chains are demanding a cartful of fees to carry products

When Kenneth C. Meyers began selling his new brand of preservative-free popcorn four years ago, he discovered that some supermarket chains were charging thousands of dollars just to put new products on their shelves. With his shoestring budget, the new fees kept him out of a lot of those stores.

Odd as it may sound, that's what the

er admits. "But there's a difference in addressing the cost problem and making it a profit center."

It's proving to be an attractive difference. Almost all major supermarket chains now are demanding that manufacturers pay slotting allowances and an array of other charges, according to a study by retail-industry consultants Willard Bishop Consulting Ltd. It can easily cost \$70,000 or more in fees to get a truckload's worth of a new six-item line into just one 50-store chain. Multiply that by the dozens of chains it might take to get national distribution, and the cost rises into the millions.

COPYCATS. Critics of the fee frenzy say it's stifling innovation. "If we had had slotting allowances a few years ago, we might not have had granola, herbal tea, or yogurt," asserts Martin Friedman, publisher of *Gorman's New Product News*, a newsletter. But retailers point out that the number of items stocked by a typical supermarket has risen to 26,000 from 13,000 in 1979. And they say most new items aren't very original: The majority are copycats or line extensions—different flavors and sizes of existing products. As a result, they typically cannibal-

ize sales of other brands, so they may mean extra revenue for the grocer. At 9 out of 10 new products fail.

Until recently, manufacturers enticed the retail trade into carrying the latest barbecue sauce or glass cleaner by offering some free goods for an initial order. But that didn't cover retailers' cost for adding the goods to inventory, then removing them after they bombed. With most chains operating on miserly margins of less than 1%, those expenses hurt. Now, however, there are slotting fees for every item, plus fees for special displays, product sampling in the store, and promotions such as ads in grocery circulars. Grocers are also demanding discounts in return for large orders.

The chains have been hitting established brands with fees for several years, and those charges are now rising rapidly, too. Manufacturers are paying more and more often to get better



SLOTting ALLOWANCES

Luxo ships 3,300 cases at \$20 a case to a 50-store chain, for \$66,000. It pays \$100 per store

\$5,000

Luxo gives the chain one case for each case bought

\$33,000

chains had in mind. To cope with an avalanche of new products, each of which is expensive to handle and stock, retailers began imposing fees called slotting allowances. At first, they simply hoped to recoup some of their costs and discourage frivolous new products. But the eagerness with which many large companies ponied up taught retailers a lesson: Their shelf space is valuable real estate. So, producers say, stores increasingly are looking to make money not just by selling products to consumers but by renting shelf space to manufacturers. "Grocers do have a problem: There are costs attendant on new products," one consumer-products mak-



TRADE ALLOWANCES

Luxo gives a 20% volume discount for cases bought

\$6,600

It pays fees for ads, displays, and in-store demonstrations

\$6,200



FAILURE FEE

The product bombs. The chain removes it. Luxo pays a fee

\$2,000

plays and bigger promotions. They even "some talk of an annual renewal fee" to stay on the shelf, says Barry Shepard, chief financial officer of Scott's Liquid Gold Inc., a furniture polish maker. All told, the various discounts and fees ate up 44% of a typical marketing budget last year, up from 37% in 1984, according to Donnelley Marketing. **FLOP FEES.** Failure has a new price at the supermarket, too. In April, J.M. Jones Co., a wholesaling unit of S.W. Valu Stores Inc. that supplies goods to small food chains, announced that it will impose a fee when it pulls a flop from its warehouses. If a new product doesn't hit a minimum sales target within the

Commentary/by Dave Griffiths

DEFENSE SPENDING: IT'S TIME FOR A SHOWDOWN WITH THE BRASS

Richard B. Cheney has spent just four months in one of Washington's toughest jobs, and already he's on the attack. Ignoring a Pentagon credo of countering the Soviets at all costs, the Defense Secretary tried to kill several big programs in his \$296 billion budget request for 1990. Exactly what will be scrapped remains a subject of debates, such as this summer's tussle over the B-2 bomber. Still, it's obvious that the Defense chief has discarded the open-checkbook policies of his predecessor, Caspar W. Weinberger, and that he will force the services to manage themselves more efficiently.

The difficulty of swinging the pendulum back is apparent in the B-2 debate. Cheney tried to keep the \$70 billion program while killing the Marine Corps' V-22 Osprey tilt-rotor aircraft and the Navy's F-14D fighter, worth a total of \$51 billion. The House Armed Services Committee, mindful of the effect on civilian employment, voted against him. The result may be a draw. Congress may partly fund the Osprey and either trim or delay the B-2 when it settles the Defense budget in the fall. But in the end, the 1990 budget probably will remain skewed toward big weapons vs. the supplies and training U.S. troops need to fight large-scale or brushfire wars.

'SERIOUS SHORTAGES.' Still, Cheney is just starting. He has ordered a review of Defense budget plans from 1991 through 1994. Some reform-minded Pentagon officials hope he will retire one or two aircraft carrier groups and replace some Army tank divisions with less costly mobile infantry divisions. Support for such moves, which would free money for boosting combat readiness, has been building. In February, Richard A. Davis, a General Accounting Office official, warned that some

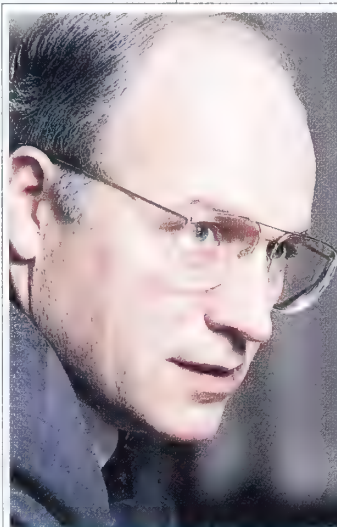
U.S. forces have "serious shortages of highly technical, sophisticated munitions." He claims they could exhaust their medical and petroleum supplies in one major battle. Similarly, some civilian Pentagon officials worry that Army air-crew training is falling to what one calls "dangerously low levels." The likely result: sagging morale and early retirements. "If pilots don't fly, they leave," one official notes.

The alternative is to depend more on the reserves—an appealing option, on paper. About half of the Defense budget goes to maintain 320,000 U.S. troops in Europe. The cost of supporting the National Guard and reserves,

which account for 35% of the 3.3 million Americans in uniform, is much less. One Pentagon study suggests that moving 240 Air Force fighters into reserve squadrons could save up to \$500 million a year, including closings of three bases. Military readiness might even improve: F-16 pilots in the reserves, many of whom fly commercially, need only 13 flying hours a month to maintain proficiency vs. 19 hours for active F-16 pilots.

Greater dependence on reserves won't come cheap at first. They would need better equipment and more spare parts, not to mention more transport planes. And resistance from the services would be fierce. They would lose clout: Who has the largest active force often determines "the winners and losers in budget fights," says one civilian Defense official.

Still, national security, not turf wars, should be what matters. Sooner rather than later, Congress will have to fund a leaner military—one with better balance between fancy hardware and combat-sharp fighting units. If it does the job right, it will shoot down the sacred cows. Maybe even the B-2.



CHENEY: LESS MONEY FOR BIG WEAPONS, MORE FOR READINESS

aths, Jones will yank it and charge \$100 for the effort. Lucky Stores Inc., Alpha Beta Stores Inc., two California chains owned by American Stores, expect to begin levying failure fees on, says Robert Sherrick, Lucky's vice-president for grocery buying.

Some manufacturers are so eager to get on the shelf that they volunteer to pay. Campbell Soup Co. will launch a voluntary failure fee on Aug. 1. Since 1985, Campbell has introduced 503 new products—including notable successes such as Le Menu frozen dinners and some costly mistakes such as Fresh Chef salad dressings. Now, the company is guaranteeing that each new item will have certain sales after six months. Says Herbert M. Baum, president of Campbell USA: "It places a greater burden on our people to make sure products are well-tested before rolling out."

The charges seemed to be slowing the pace of new products last year. The rate of introductions grew just 3.7% in 1988, down from a 26% rate in 1987. But launches were up nearly 15% in the first half of this year, according to Friedman. While some small companies say the charges are a serious obstacle, others are finding ways to dodge them. Meyers, for example, started by selling his new popcorn to mom-and-pop stores and all chains that didn't ask for fees. The popcorn outsold competing snacks, and supermarkets began waiving or reducing their charges.

IT IS MONEY. From its base in suburban Boston, Meyers' SmartFoods Inc. rolled out its snacks as far as Washington, D.C., and Ohio, racking up sales of \$15 million last year. In January, PepsiCo Inc.'s Frito-Lay division bought the company for \$14.5 million.

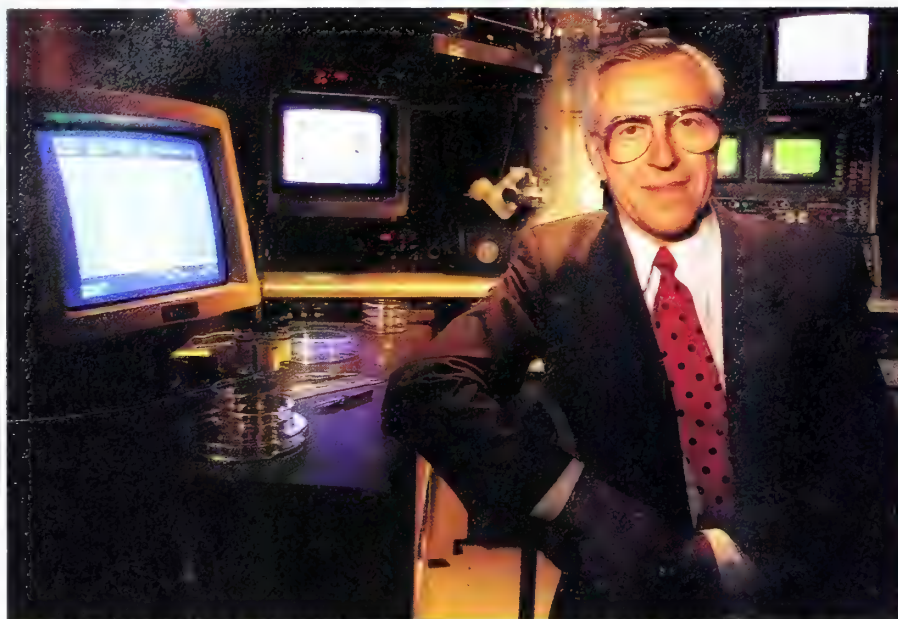
Similarly, My Own Meals Inc. started taking phone and mail orders for its single-serving children's meals. MOM added the revenues from these sales to pay the fees demanded by the big grocery chains. After just two years in business, the Deerfield (Ill.)-based company has expanded into 1,000 stores in 11 states. Original Italian Pasta Prods. Co. refused one chain's demand for \$1,000 per item to stock its line of 11 fresh pastas and sauces and went to competing stores that had low or no fees. The chain has since offered to reduce its asking price to \$3,000.

Still, the fees keep coming. Industry executives say some supermarket buyers have even begun charging hundreds of dollars just to listen to a sales pitch for a new item—although no one will admit to losing or paying such a fee. At what point do the hurdles to put a new product on the shelf get too high? That's the \$1,000 question—or more, depending on fees.

By Lois Therrien in Chicago

HAS DOW CHEMICAL FOUND THE RIGHT FORMULA?

It has diversified and boosted profits—but so far Wall Street isn't impressed



POPOFF: COUNTING ON PHARMACEUTICALS TO MAKE EARNINGS LESS CYCLICAL

Dow Chief Executive Frank P. Popoff just can't seem to budge Wall Street. Since 1986, when Dow Chemical Co. completed a major overhaul of its chemical business, its earnings have more than tripled, to \$2.4 billion, on a 50% sales spurt, to \$16.7 billion. True, much of that growth has come from an extended upturn in chemical prices, which are now beginning to slide. But the Midland (Mich.) company has been feverishly streamlining and diversifying in an effort to smooth out earnings. No matter. At 91, its stock still trades at an anemic six times earnings. "It's like there's never a sunny day," says Director Willie D. Davis, president of All Pro Broadcasting Inc.

Popoff, a Dow career man who took over from Chairman Paul F. Orefice in 1987, doesn't seem overly concerned. "We've spent a hell of a lot more time worrying about the growth of Dow Chemical Co.," he says. His latest moves: In April, he struck a joint venture with Eli Lilly & Co. to create a \$1.5 billion agricultural chemicals company, the world's fifth-largest. And this month, he proposed a linkup with drug-maker Marion Laboratories Inc. in a

complex deal which ultimately could be valued at \$5.5 billion. Dow would fold Marion into its Merrell Dow Pharmaceuticals Inc. unit to create a \$2.3 billion subsidiary with its own publicly traded stock. Dow's controlling interest would give it two-thirds of the new company's profits, and, like other drug companies, the subsidiary should command a lofty price multiple for its shares. Those factors could provide a halo effect to boost Dow's stock.

But investors have shown few signs of abandoning a long-held distrust of Dow. In the early 1980s, recession and overcapacity sent the price of chemicals—and Dow's earnings—plummeting. From a peak of \$1.4 billion in 1979, Dow's operating profit skidded to a trough of \$287 million in 1982. But if Dow ever got religion, it was during the next few years. Stunned by the broad extent of its vulnerability, Dow's

gospel became diversification. Beginning in the early 1980s, the company successfully expanded into consumer goods and pharmaceuticals.

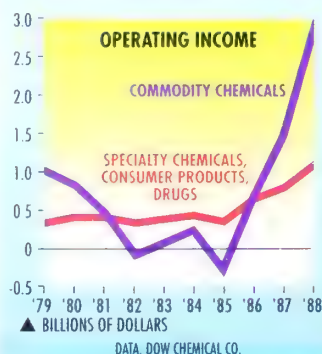
The Richardson-Merrell drug business purchased in 1980 through a \$260 million stock swap, was its first big acquisition. Next came Morton Thiokol Inc.'s Tenzol Div., adding products such as Spray-N-Wash stain remover and Fantastik kitchen cleaner to a fledgling stable of household products including Ziploc bags. Dow expanded into hair-care products in 1987, when it outbid Alberto-Culver for Lamaur Inc. It then bought Eastman Chemical Corp. for \$366 million, boosting its automotive plastics business.

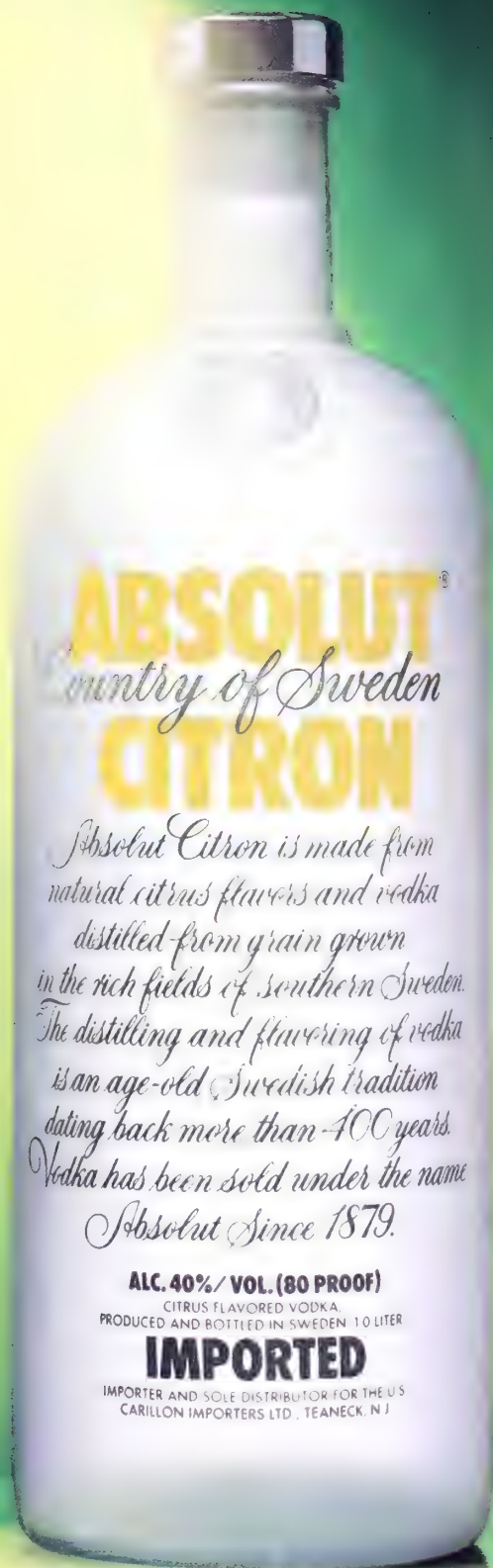
RETROFITTING. Meanwhile, Dow put its search into overdrive to boost production of less cyclical specialty chemicals such as epoxy resin composites. It stepped up licensing of others' products such as a line of superabsorbent polymers used in disposable diapers, which generate \$100 million in annual sales. In the end, specialty chemicals and consumer goods now make up 27% of Dow's operating earnings and have been a moderately stable growth compared with the commodity chemicals roller coaster.

Dow has streamlined its basic chemicals business, too. From 1983 to 1987, it wrote off nearly \$700 million in assets and shaved 13,000 employees. Dow cut costs. By retrofitting its ethylene plants, for example, Dow now uses a greater variety of raw materials in making petrochemicals and can better hedge its raw material purchases, saving as much as \$100 million a year. It even found economic justification for environmentalism. By cutting down on toxic waste, it saved millions a year in disposal costs. Dow's return on its chemical assets is now 33% vs. Du Pont's 25% and Union Carbide's 22.4%, says Leslie F. Vitz of Salomon Brothers Inc.

That return is still

THE VOLATILE MIX IN DOW'S EARNINGS





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to fall as chemical prices recede in the next few years. Already, basic chemicals such as ethylene and benzene are sliding, as the slowing economy and strong dollar cut into both U.S. and foreign demand. But with sales of less cyclical products now accounting for almost half of total sales, compared with 37% in 1982, Dow is much better suited to weather the storm.

Popoff is well-liked on Wall Street. The 54-year-old native Bulgarian distinguished himself at Dow by steering the company's European operations into specialty chemicals during the early 1980s. He's considered a tough manager, but more sensitive to shareholders than his hard-nosed predecessor. "Oreoffice was more of an empire builder," says one institutional investor. Yet, while the Dow-Lilly joint venture gets rave reviews, the Marion Labs acquisition may be something of a gamble.

CRITICAL MASS. Analysts note that Marion will lose patent protection by 1992 for its biggest seller, Cardizem, a drug for congestive heart failure. Its only other big product, Carafate, an ulcer medication, is already off patent. "They're spending a lot of money and not getting much in the way of new products," says William R. Young of Drexel Burnham Lambert Inc. But Marion's strength is its superior sales force. And the deal creates the critical mass Dow needs to compete worldwide in pharmaceuticals.

At the outset, the company will have two big cash generators. Marion's Cardizem is headed for more than \$600 million in sales this year, while Seldane, Merrell Dow's nonsedating antihistamine, should bring in about \$400 million. Cardizem will face tough generic competition when it comes off patent. But new versions of Seldane, such as one paired with a decongestant and another for the over-the-counter market, could double the product's sales in a few years. That should buy time for a bevy of Merrell Dow drugs to clear regulatory hurdles.

Will Dow's diversification and streamlining shield the company's earnings? Yes, says Prudential-Bache Securities Inc. analyst Leonard Bogner, who predicts that all of the company's consumer and specialty chemical products will earn as much as \$6 a share over the next few years. And even in a severe downturn, which most economists think is unlikely, basic chemicals will add an additional \$3. "Two years ago, when analysts looked at Dow, they didn't think peak earnings could be \$8 to \$10 a share," he says. "Now that's trough earnings." Ironically, it may take a downturn for Dow to get its day in the sun on Wall Street.

By David Woodruff in Midland, Mich.,

AIRLINES

SMALL PLANES, TINY TOWNS, BIG BUCKS

But commuter lines must cooperate with the giants to thrive

George F. Pickett Jr., president and co-founder of Atlantic Southeast Airlines Inc., vividly recalls his airline's fledgling days. He and his partners, veterans of the old Southern Airways, had raised \$260,000 to start their operation, which consisted of one used 14-seat plane, perfect for a 79-mile hop between Atlanta and Columbus, Ga. Pickett had to work daily shifts at Atlantic Southeast's lone gate, where creative problem-solving was a way of life. "We kept our pockets full of dimes," Pickett says, "so we could use an airport pay phone to call the office."

Ten years later, Pickett's is a bad-news, good-news story. The bad news is that phone calls now cost a quarter, and Pickett's airline—ASA for short—is hardly a household name. But those draw-

backs are far outweighed by the good news: Pickett doesn't have to hang around pay phones anymore, and investors have turned ASA into one of the hottest stocks in the industry.

Shares in ASA have doubled, to \$17, in the past 12 months. Income of \$1 million for the first half of 1989 is up from the earnings for the same period in 1988. And Pickett's ASA shares are worth more than \$5 million.

HARD-WON RESPECT. The success of ASA underscores the new importance of commuter airlines. True, after years of bankruptcies and mergers, the number of regional and commuter lines, at 13, is well down from its peak of 240 in 1981. But the largest of these surviving independent carriers, such as ASA, in Wisconsin, Comair, and WestAir, have



the respect and close attention of Wall Street, which is tantalized by the mergers and takeover possibilities that these companies offer. For one thing, these lines usually command the routes to small cities and often have higher margins than bigger airlines that have to compete more for business.

Investors also like the commuters' alliances with the large airlines, which in turn for the steady stream of passengers the commuters feed them, offer a strategic support. WestAir, based in Fresno, Calif., was a \$14 million puddle jumper in 1984. That year, its owners signed a pact with United Airlines Inc. to let WestAir enjoy the advantages of United's frequent-flier program and reservation system. Since then, as a United Express commuter line, WestAir has seen its sales grow tenfold.

The success of ASA's marketing alliance is even more impressive. Based in College Park, Ga., ASA flies passengers in 10-seat turboprops from the crowded airports at Dallas and Atlanta to far less busy places, like Meridian, Miss., Valdosta, Ga., Killeen, Tex., and Lawton, Okla. When Delta Air Lines Inc., which owns 49% of ASA, has passengers headed for these towns, it books them on connecting ASA flights.

Because ASA's fleet of fuel-efficient turboprops stays busy flying high-paying

business travelers as well as military personnel, the carrier has some of the highest margins in the industry. Nevertheless, before 1989, ASA's profits had pretty much stalled because of heavy investment in building hubs in Memphis and Dallas.

Then came the strike at Eastern Air Lines Inc., Delta's main rival in Atlanta. With Eastern operating fewer than 30% of its prestrike flights, Atlanta-bound passengers flocked to Delta, and, by extension, to ASA. The result was stupendous growth for the small airline.

BIG BROTHER. Of course, if commuter lines like ASA can boost sales by riding piggyback on the big carriers, they are also hostage to their big brothers' fortunes. Metro Airlines Inc., the commuter line that works as Eastern's partner in Atlanta and vies with ASA for customers, has lost so many customers because of the strike that it has cut back on its area flights. Brian K. Miller, Metro's treasurer, acknowledges that the Eastern strike has had a "disastrous" effect on Metro. For its fiscal year ending in April, Metro reported a loss, before an accounting change, of \$11 million on sales of \$147 million. Fortunately for Metro, it has a thriving business serving as a feeder for American Airlines Inc. in Dallas.

One unfortunate lesson the commuter lines have learned is that when big brother wants something, he's likely to get it. For example, Air Wisconsin, one of the biggest commuter airlines, operates as a United Express carrier like WestAir. For years, Air Wisconsin profitably flew its small planes between Chicago's O'Hare International Airport and Milwaukee. But late last year, United decided it would fly its own jets to Milwaukee to compete with such newcomers as Northwest Airlines Inc. and American on that route.

The move hurt Air Wisconsin so much that, after some negotiations with United, it simply abandoned the market. Says William H. Geenen, treasurer for parent Air Wisconsin Services Inc.: "We didn't especially want to compete for the leftovers." Air Wisconsin has also ceded its Chicago-Madison route to United. Now, because of the pullouts and because Air Wisconsin can't expand at crowded O'Hare, earnings are expected to drop sharply from 1988.

United could avoid competing with its commuter lines simply by buying them, but it faces a hurdle: It would have to eliminate a clause in its pilots' contract that would sharply increase the wages of those flying for any small carrier United acquires. If United somehow manages to have this clause dropped, analysts expect it to invest in its commuter partners. After all, Delta has stakes in ASA, Comair, and SkyWest,

and last year American purchased three of its commuter partners outright. "United can't afford to let American get too far ahead," warns John G. Larkin, an analyst at Alex. Brown & Sons Inc.

Even without bids by United, other mergers could come off. "There's a natural tendency in the industry to move closer," says Maurice J. Gallagher, president of WestAir. "You'll see continuing consolidation." This spring, Metro bought Brockway Air Inc., another commuter airline, and agreed to feed into TWA in the Northeast. Air Wisconsin, prized for its gates at O'Hare, and Air Midwest Inc., a commuter line in Wichita, Kan., have both received takeover offers in the past eighteen months.

THE BIGGEST PLAYERS

Publicly traded commuter airlines	1989 sales Millions	Partner
WESTAIR*	\$185	United
ATLANTIC SOUTHEAST*	121	Delta
AIR WISCONSIN*	169	United
METRO**	147	Eastern, TWA, American
COMAIR**	118	Delta
SKYWEST**	84	Delta

* Estimated ** Fiscal year completed
DATA: ALEX. BROWN & SONS COMPANY REPORTS

As for ASA, it's probably safe from any hostile takeover. Together, Delta and ASA insiders own about a third of the stock. Of course, Delta may one day decide to give ASA a bear hug and buy the whole airline. But for now, there's little evidence that Delta wants to.

What ASA still has to worry about is Eastern Air Lines, which is planning a comeback on ASA's Southeastern turf. A low-fare strategy by Eastern could help Eastern's ally, Metro, win back the bargain hunters it lost to ASA.

NICE PROBLEM. There is also a chance that ASA may overreach by trying to build a business in long-haul markets served by the jets of the big airlines. ASA's managers concede that earlier this year they considered buying small, 100-seat jet aircraft to tap markets given up by Eastern. "I have a problem with commuter lines going into jets," says ASA co-founder Robert L. Priddy, now president of Air Midwest Inc. "You don't want to compete with the majors," he adds, "you want to complement them."

ASA's problem is symptomatic of the best commuter lines, which have to figure out how to capitalize on their success. After surviving the turmoil of deregulation, that's a nice problem to have.

By Scott Ticer in College Park, Ga., with James E. Ellis in Chicago and bureau reporters



ATLANTIC SOUTHEAST:
BOUND FOR VALDOSTA,
MERIDIAN, KILLEEN...

HORSE RACING

FOR ALL ITS WINNERS,
DEL RAYO STABLES
NEVER MADE A PROFIT



GENE KLEIN QUILTS THE TRACK—\$26 MILLION LATER

Why the Thoroughbred owner is selling out while he's on top

Like any dealmaker, Eugene V. Klein has won a few and lost a few. His biggest miss came in 1964, when he turned down an offer to buy the U.S. publishing rights to the songs of an up-and-coming group called the Beatles. He also dropped \$31 million when Minnie Pearl's fried-chicken chain bombed in 1971.

Still, Gene Klein has a bit of the magic touch. After starting his business career selling encyclopedias door-to-door during the Depression, and later, used cars, Klein made millions importing Volvos. He turned a third-rate theater chain into the powerful National General Corp., an entertainment and publishing conglomerate. And he made \$50 million selling the San Diego Chargers of the National Football League in 1984, a fivefold increase in his investment.

OVERNIGHT SUCCESS. Since then, Klein has been investing in superstars with four legs. Spending millions to snap up some of the fastest one- and two-year-old Thoroughbreds, he became the country's most successful owner virtually overnight. In his second year in the business, he came up with a Preakness winner; in his fifth, a Kentucky Derby winner. In six years, his horses won \$25.8 million, leaving old-line stables such as

Claiborne Farms in the dust. Now, Gene Klein wants out. In June, he announced he will sell his entire 140-horse stable this fall and go traveling.

Horse racing's rumor mill churns with speculation on why Klein, 68, wants to quit so soon after reaching the pinnacle. One thing is sure: For all its big winners, his Del Rayo Stables has never made a profit. "Gene Klein worked awfully hard just to lose money," says Edward L. Bowen, editor-in-chief of the trade magazine *The Blood-Horse*. "For a guy like him, that can't be much fun."

Klein, who calls Winning Colors' 1988 Kentucky Derby victory "my greatest moment in sports," might debate that point. But even he admits that, despite winning more than 350 major-stakes races since 1984, his racing operations have always operated in the red. The problem is patience—or the lack of it.

Klein had some failures in his stable: Devils River, a son of Seattle Slew, cost him \$1 million—only to go lame

Virtually no one makes money simply racing horses. It costs \$15,000 a year just to house and feed the average Thoroughbred, not to mention \$5,000 per mile to fly the horse from track to track. Net income, if any, comes after the horse's three- to five-year racing career is over. If its track record and bloodlines are good, stud fees or the sale of foals produces the profits—perhaps in many years. But Klein admits that he does not have the time needed for this end of the business.

Instead of building his stable slowly through breeding, Klein spent heavily even by the standards of the horse business. He coughed up \$20 million to buy a 100-acre spread in Del Mar, Calif., and build a state-of-the-art training facility. And he became partner with D. Wayne Lukas, a top-flight horse trainer known for his ability to spot a young winner and for his penchant to pay steeply to get it. Together, Lukas and Klein spent nearly \$50 million buying Thoroughbred studs. Before long, Del Rayo stables had more than 200 horses, many of them yearlings, which eat a lot but don't race. There were some failures, too, such as Devils River, a son of Seattle Slew, which cost Klein \$1 million—only to go lame. Eventually, Klein sold some horses, syndicated the rights to others, and last year stopped buying new horses altogether. "It was time to reassess what I was going," he admits.

FREE REIN. Where he's going now, Klein says, is around the world on a leisurely trip. He hopes to take his three grandchildren along in his private jet. He expects a hefty profit if he can sell his horses for more than \$40 million, a figure not unlikely, considering that the stable includes Winning Colors and the 1988 Horse of the Year, Lady's Secret. On Mind, which cost \$150,000 and then went on to win the equivalent of the filly's triple crown this year, could fetch \$1 million by herself.

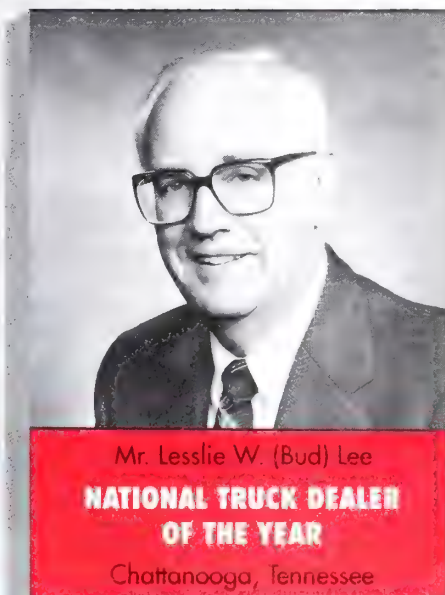
By getting out, says Klein, he saves himself the wear and tear of jetting around the country to be in the winner's circle at Belmont, Gulfstream Park or somewhere else. There are easier ways to make money, such as selling the homes he's building near his Del Mar stable. Most are gone, some for up to \$1 million apiece.

"I think I've earned a rest," he says. Will he be back? "Maybe in a year or two," he thinks. The man who lost his golden payday with the Beatles knows what it's like to miss out on a winner. But you can bet he won't be back unless he can find a way to make victories pay his bills.

By Ronald Grover in Del Mar, Calif.

ONE LEADER SALUTES ANOTHER

For the past thirteen years, Business Week has recognized outstanding leadership in the truck industry by conferring the National Truck Dealer of the Year Award. We do this in association with the American Truck Dealers. This year we are honoring Lesslie W. (Bud) Lee, a Ford and International Dealer in Chattanooga, Tennessee.



Mr. Lee was selected by a panel of judges from the Columbia University Graduate School of Business in recognition of his leadership and innovation in the industry and his exemplary community service record. Business Week proudly salutes Mr. Lesslie W. Lee, the 1989 National Truck Dealer of the Year.

SUDDENLY, SOFTWARE HOUSES HAVE A BIG BLUE BUDDY

As its computer sales lag, IBM is investing in applications

When R. Douglas Kahn, president of Interactive Images Inc., told his board that he planned to forge a relationship with IBM, his directors told him he was crazy. "They said, 'Don't waste your time. You'll spend three to four years thinking you've got something going, and you won't,'" Kahn recalls. But he persisted, eager to get a preview of IBM's product-development plans, and soon Big Blue and Interactive were partners. That was last year. This spring, IBM took a 10% stake in Interactive and signed exclusive marketing rights for a version of its graphics software. "It was spectacularly fast," Kahn says. "We are evidence that there is a new process for working with IBM."

There's lots of other evidence, too. Until the mid-1980s, about the closest IBM came to making allies in software was to publicize lists of programs that worked with its machines. But Big Blue began to lose market share in everything except mainframes, and soon it became clear that lists weren't enough: It needed better software to help it sell computers. So it came up with a new plan. In less than 18 months, investment bankers say, IBM has taken about \$100 million in equity positions in nearly a dozen U.S. software developers, and has forged marketing partnerships with hundreds of others. IBM is trying to "focus on solutions required by our customers," says Angelo V. Lucente, IBM's general manager of business partnerships. "In so doing, we place more of a focus on how we deal with third parties."

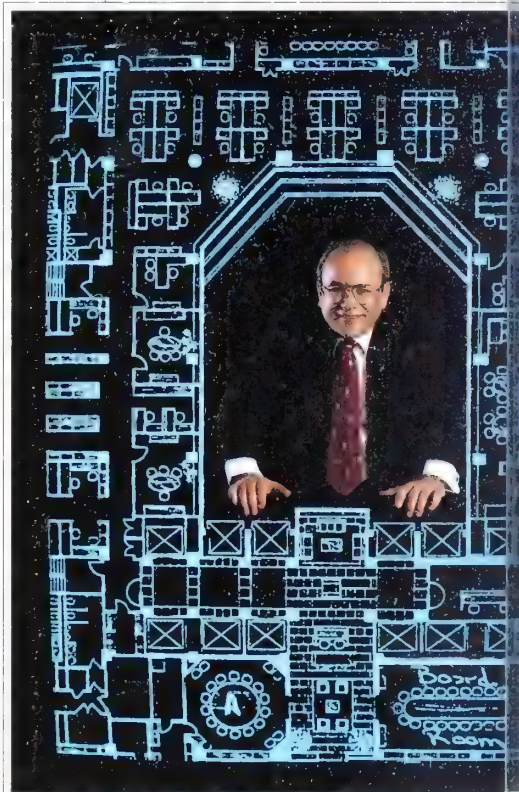
INSIDE EDGE. The numbers show why that's important. As computers become commodity products, IBM will rely more on software sales to keep its margins from slipping. Analysts estimate that by 1993 half of computer industry revenues will come from software and services, up from about 33% in 1981. But in this year's second quarter, IBM's software revenues grew only 6.2%, down from increases of 15% to 35% in the recent past. IBM plans to turbocharge its growth with a blueprint called Systems Application Architecture, an evolving set of strictly defined rules for connections between

programs and computers that should make it easier for corporate customers to create networks comprising everything from personal computers to mainframes. But to make SAA popular, IBM needs to get lots of software written for it fast—before connectivity schemes from competitors catch on.

IBM won't invest in every software company looking for a few bucks, but it offers a surprising range of help. There are loans of up to \$50,000 for startup costs. IBM salespeople are compensated for selling a number of outside software products. IBM is starting to give software developers proprietary technical details well before a new product is shipped. And it will help put on joint seminars. Recently, for instance, it worked with Walker Interactive Systems, which develops financial software, and Tesseract Corp., which makes software for human-resources departments, to hold sales meetings in 13 IBM facilities across the U.S. Some 3,000 IBM customers showed up. "It would have taken me millions of marketing dollars to reach them," says Deborah A. Johnston, senior vice-president at Walker. Since the tour ended in June, she adds, Walker has made \$2 million worth of sales and has an additional \$10 million pending. And that software will be used mostly on IBM machines.

To produce such results, IBM has made big changes in its bureaucracy. In 1988, it created a group to bring to market applications software—word processing programs and the like. Now, even IBM vice-presidents sometimes personally recruit the tiniest software companies. IBM even created a key job in each of its branches, called Complementary Resource Marketing Manager. Hundreds of these people match up the software "business partners" with IBM customers—and keep everyone happy.

Just this month, moreover, IBM moved responsibility for business partnerships into the company's Market Operations Group, the same unit that runs its direct-sales force. That was a further signal for salespeople that they are expected to push outside products. This month, IBM is planning to announce a more formalized program for developing relationships with software companies. Because



SARNA OF IBS: IMAGING IS "A REVOLUTION WAITING" AND IBM WANTS TO GET IN ON THE GROUND FLOOR

of the deals it has done so far, "IBM has people on board that know how to navigate the hurdles," says David Sarna, president of Image Business Systems Corp., a Manhattan-based producer of software that turns data into images. IBM took a \$6 million stake in his company in June.

For IBM, such changes are a matter of necessity. Competition from companies such as Digital Equipment Corp. not only makes it harder for Big Blue

w, but to attract companies that will concentrate on producing software for machines. "Independent software companies, if they wanted to survive, [they] had to build software for IBM hardware," says Bernie Goldstein, a partner at investment banker Broadview Associates in Fort Lee, N. J., which specializes in software deals. "But IBM has that dominance." Unless IBM caters to software companies, he adds, they are likely to write programs for IBM's competitors as for Big Blue.

FUTURE CLASH. IBM wouldn't need to do this courting if it could turn out successful programs on its own. But it can't. Since its 1969 move to sell software separately instead of in a "bundle" of services and hardware, IBM has lost billions of dollars developing applications programs, and few have sold well. "Tell me the last time a successful application came from IBM directly," says consultant Sam O. Albert, a former software executive. He notes that

By 1993, analysts say, half of all industry revenues will come from software and services

small teams of highly motivated people." Nor is IBM the most lucrative place for programmers to land. A successful software package can make its inventors a personal fortune but not if they work for a large company. Beyond that, it's hard for IBM, or any big company, to make the wide variety of specialized programs that customers want. Usually, smaller companies can develop the focus to produce for these niches.

The other, more critical motivation behind IBM's efforts to woo software partners is SAA. IBM's \$18 million stake in American Management Systems Inc. and its \$10.1 million investment in Management Science America Inc., both developers of mainframe software, ensure that they will develop for SAA. "I can't tell you how much it has meant," says John P. Imlay, MSA's chairman. "Just the ability to show a client that IBM supports us" boosts sales, he says. IBM went even further with AMS, giving it a five-year contract to do development work on SAA software. IBM hopes that if these two companies prosper because of their ties to SAA, others will begin their own SAA development programs.

VALLEY CAMPAIGN. Though Imlay disagrees, analysts think IBM took its stake in MSA partly to scare away hostile suitors such as Computer Associates Inc., an IBM software competitor that last year tried to buy MSA.

IBM has also used its equity stakes to reach into new and potentially lucrative areas of the industry. These include its \$18 million investment in Computer Task Group Inc., which builds custom computer systems for clients using IBM hardware, and its stake in IBS. "Most people view imaging as a revolution about to happen," says IBS President Sarna. "IBM wants to back the right horse." IBM's investments in Metaphor Computer Systems and in Interactive Images, whose graphics programs make it easier to extract information from mainframe data bases, also give it a boost in a technology in which it lags badly. IBM's money, of course, doesn't come free. The company often takes a seat on the board, sometimes just as an observer. That lets it apply pressure to

make sure that the smaller company writes more software for IBM than anyone else. "If you have a close relationship with IBM, it means you're not going to have it with other vendors," says IBS' Sarna. DEC makes light of Big Blue's strategy. "IBM needs to ask themselves what they're doing with a 5% stake in anybody," says Michael S. Mancuso, a DEC group marketing manager with responsibility for outside software developers. "I don't believe in equity stakes." Still, DEC is worried enough that this year it began its own program for independent software developers that sometimes gives outside companies access to DEC technical labs and marketing help.

Despite IBM's new aggressiveness, its software relationships are far from perfect. Developers say they sometimes still have to fight the giant's bureaucracy. "It's very easy for IBM to smother us with love," says IBS' Sarna. IBM staffers show up so often that "we could spend the rest of our lives trying to educate IBM on imaging." And it's sometimes difficult to get decisions made, says David E. Liddle, chairman of Metaphor. He says it isn't unusual to talk to 50 to 100 IBM people before a decision is final.

'SENSE OF RENEWAL.' Beyond that, there's always the suspicion that IBM is playing nice only until it gets its own products ready. "That's something we all have to worry about," says William R. Leckonby, president of Tesseract. John Whitehead, president of TDS Healthcare Systems in Atlanta, says IBM has avoided a deal with him because the two both sell mainframe software to hospitals. "We've made them a lot of money," says Whitehead, who notes that every buyer of his software needs an IBM mainframe to run it. And yet he can't get on the software gravy train. "We'd be foolish not to consider opening ourselves up to other [computer makers] down the road," he declares. IBM's Luccente says Big Blue will do partnerships with companies that compete with it. But it may never do that with the big players in at least one market area: mainframe data bases, where IBM's DB2 software is a crucial element in the design of SAA.

Still, IBM's investments are the tonic a lot of software companies need. And that IBM needs, too, says Jeffrey M. Wales, chairman of Polygen Corp., a scientific software company in which IBM has invested. "There's a genuine sense of trying to rebuild itself," says Wales. "The people in the marketing areas and in the product development areas have a sense of renewal." It's that spark that may make IBM a software company yet—and make its outside partners rich along the way.

By Deidre A. Depke, with Susan M. Gelfond and John W. Verity in New York

TAKING A STAKE IN ENTREPRENEURIAL AMERICA

Recent IBM investments in software developers

Business	IBM's Investment* Percent of Business	Date announced
TASK GROUP INC. migration	\$21.0 15.3%	May
MANAGEMENT SYSTEMS INC. software	\$18.0 10.0%	July
INTERACTIVE IMAGES INC. graphics interfaces	\$15.0** 10.0%	May
MANAGEMENT SCIENCE AMERICA INC. software	\$10.1 5.0%	July
COMPUTER SYSTEMS INC. simulation systems	\$10.0 8.3%	Apr. 1988
BUSINESS SYSTEMS CORP. products	\$6.0 under 25.0%**	June
COMPUTER CORP. design tools	\$5.0** 40.0%	Oct. 1988
COMPUTER CORP. software	\$5.0** under 20.0%**	Mar.
COMPUTER CORP. development	\$4.3 NA	June

Dollars in millions. **Estimate. NA = Not Available.

DATA: BW

playWrite, a word processing program for PCs, is one exception. The common wisdom in the computer industry is that IBM needs outside help because of the inability of its programs to stay in touch with the market. However, some programmers tend to be off by IBM's straitlaced culture. "A bureaucratic place is not the best place to develop software," says John Cheimer, an analyst at Broadview. The best software is still created by

"Of course computer costs are part of doing business. But look what they're doing to our bottom line."



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Developments to Watch

EDITED BY EMILY T. SMITH

ABOUT TIME: A PILL THAT REWINDS THE BODY'S CLOCK



Catching the red-eye from the Coast leaves you zoned out. Your body is in L.A., but your business is in New York. So what do you do? Take a melatonin pill. Scientists believe that melatonin, a hormone secreted by the brain's pineal gland, helps regu-

late the body's internal clock. A dose seems to reset that clock.

So far, researchers in the U.S. and Europe have tested about two dozen subjects. The patients showed reduced symptoms of jet lag—and no side effects, says Dr. Russel J. Reiter, professor of neuroendocrinology at the University of Texas Health Sciences Center in San Antonio, which ran some of the tests. He adds that melatonin is inexpensive and readily available, the byproduct of some coffee decaffeination methods.

High-flying executives won't be the only ones to benefit from the jet-lag pills: Night-shift factory workers and earth-orbiting astronauts might take them to cope with their unusual schedules. And just when will the relief be ready? Reiter says that a half-dozen pharmaceutical companies are eyeing the pills and predicts that at least one will begin the approval process with the Food & Drug Administration next year.

SUPERSMALL LASERS MAY BE THE KEY TO SUPERSMART COMPUTERS

Buck Rogers would have trouble seeing this laser, let alone using it to vaporize an unfriendly alien. Unveiled on July 19 by scientists at Bellcore and AT&T Bell Laboratories, it's the smallest laser ever made—just one-tenth the thickness of a human hair. Unlike current microscopic lasers, which shine light through the edge of an integrated-circuit chip, this one shines light upward from a chip's surface. Researchers have already been able to pack 2 million of these "surface-mounted" lasers into an area the size of a fingernail, 100 times more than previously possible.

Telephone companies now use tiny lasers to transmit conversations along strands of glass. The new laser, though, may be a building block of tomorrow's superfast, supersmart computers. AT&T is working on "optical" computers that rely on laser switches rather than traditional electronic switches for speedier calculations. And researchers at Bellcore plan to use surface-mounted lasers in a "neural-network" chip that mimics the structure—and thought processes—of the brain.

QUIET ON THE TRADING FLOOR—AND ACCURACY, TOO

Trading—whether it's securities, commodities, or foreign exchange—is usually contained chaos. Traders yell across the room, wave their hands, and scribble bids on scraps of paper. At the end of the day, trades are verified and recorded in back-office computing systems. But those traditional meth-

ods of recording are typically only 75% to 90% accurate.

Verbex Voice Systems Inc. may be able to replace some of the chaos with more accuracy. The Verbex Voice Trader by the Edison (N.J.) company enables traders to place buy or sell orders, enter trading data, make inquiries from data bases in real time, or even execute trades using natural conversation. Speaking into a telephone handset connected to a computer terminal, traders can enter a transaction without diverting their eyes from the trading screen, then immediately see it verified.

In tests, the \$7,000 voice-recognition system is 98% accurate even in the midst of frenzied trading-room activity. The system is able to record trades using job-specific vocabulary and is programmed to take commands from a specific trader, which helps it to screen out noise and other trades being executed in the room at the same time.

TAKING ANOTHER LOOK AT AIRCRAFT SAFETY, WITH SOUND

As recent crashes chillingly demonstrate, failure to detect defects in aging aircraft can be fatal. But present inspection techniques are labor-intensive—and prone to human error. In one test, visual inspections failed to detect a 3½-inch crack in the skin of an aircraft 50% of the time.

Physical Acoustics Corp. thinks it has a better idea: Listen to the plane. If the plane is pressurized while still on the ground, sensitive acoustic sensors can pick up the peculiar sound emitted by tiny cracks in the skin. In tests, this "acoustic-emission" technique found cracks in wings and inside the lining of airplanes that were not detected in conventional inspections.

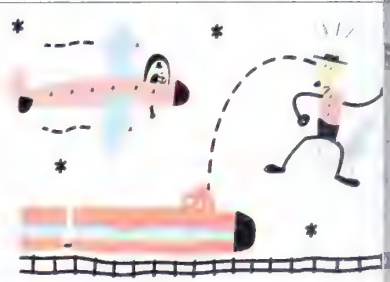
The Princeton (N.J.) company now sells its \$100,000 system to inspect helicopters and railcars. This summer it will test the system with the Federal Aeronautics Administration and airplane manufacturers, hoping to win their approval. The company is planning to develop a computerized system complete with a picture of the aircraft and color codings to alert maintenance workers to potential problems.

IF THESE TRAINS GET OFF THE GROUND, A LOT OF PLANES WON'T

Superconductor buffs have long waited for superfast trains, magnetically levitated above tracks, to replace today's trains. But maglev trains, says the Energy Dept.'s Argonne National Laboratory, make more sense as substitutes for airplanes.

A recent study concludes that maglevs running up to 600 mph could economically replace airplanes on intercity hops of 200 to 600 miles. The trains would use as little as one-fourth the energy used by planes and would cost an estimated 5¢ per passenger mile. Meanwhile, the skies are already so crowded that air-traffic delays cost an estimated \$5 billion per year. Maglev vehicles are quieter and less polluting than airplanes.

Although maglev technology is well understood, the U.S. dropped out of the research during the 1970s. The German and Japanese have formed consortiums to market and construct systems, with the U.S. as a key target.



ADVANCED BIO CLASS? THAT'S OVER IN HITACHI HALL

Now, Japanese companies are setting up labs at U.S. colleges

When the evil spirits have gone and the gods descended, three white-robed Shinto priests pushed the ground and pray for the successful completion of a new \$15 million technology research center. This mix of the modern and the mystical would have no eyebrows in Tokyo. But the cer-

site. When the facility opens next April, company researchers will move into the top two floors, and university researchers will occupy the ground floor. In lieu of rent, Hitachi provides the university with high-tech laboratory space at no cost. And when the lease ends, the entire building reverts to the university.



emony took place last January on the campus of the University of California at Irvine, where Hitachi Chemical Ltd. of Japan is building its latest laboratory. The UC Irvine lab is the newest twist in Japan's effort to tap the minds of the U.S. researchers. Japanese companies have long supported research projects and endowed professorships on U.S. campuses. But now they are moving in the building as well. When Hitachi's lab opens next April, it will become the second Japanese company—after Otsuka Pharmaceutical—to set up a research lab with ties to an American university. It will be followed soon by NEC Corp. and Kobe Steel Ltd. Because it's right on campus, the Hitachi lab will have unusually close ties to Irvine. The university has rented Hitachi a 40-year lease on the

Japanese officials make no secret of the reasons for their apparent largesse. "One reason we decided to build on campus is to make contacts with students, some of whom will have a chance to work in the center labs," says Hiroshi Sumiyama, who will head the Hitachi research center.

The university insists that the deal will not result in the Japanese company walking off with important technology developed by Irvine scientists: Data must be published, and the university and the company will share patent rights. At Irvine, says Vice-Chancellor William H. Parker, "There are no special arrangements with Hitachi, except for the location."

'WINDOW ON JAPAN.' Indeed, academics at Irvine assert that the Japanese will give back as much as they'll get from any collaboration. "Our scientists' feeling is that in Japan they have made great leaps themselves," says L. Wade Rose, an assistant dean at Irvine's College of Medicine. "This provides us with a window on Japan in our front yard." But some point to potential problems. For example, some Hitachi employees will hold adjunct professorships at the university. Any patents on their work—including research conducted with the help of Irvine students—will belong to Hitachi, according to Sumiyama.

The Biomembrane Institute in Seattle, a nonprofit cancer research organization founded in 1987 by Otsuka Pharmaceutical Co., also provides its Japanese sponsor with major access to a U.S. university. Although the institute is about 20 minutes away by car from the University of Washington's campus, the distance hasn't precluded some very close ties. Biomembrane's scientific director, Dr. Sen-itiroh Hakomori, is a tenured professor at UW; so are several staff members. And the institute's sophisticated nuclear magnetic resonance (NMR) imaging machine, bought by Otsuka, resides in the university's chemistry department.

Otsuka, which funded all startup costs for the Biomembrane Institute and continues to be its primary sponsor, gave UW three seats on the institute's nine-member board of directors. It also agreed to keep the work nonproprietary and permit the institute to receive funding from sources other than Otsuka, including rival pharmaceutical companies. But so far, the only other sponsor of Biomembrane's research is the National Institutes of Health, which provides \$375,000 in research grants annually.

Researchers and graduate students at UW freely use the institute's facilities and interact with its staff. And Otsuka? "They get early review of research results, like any sponsor, but it's all going to be published," insists Dr. Gilbert S. Omenn, dean of UW's school of public health and a Biomembrane board member. With typical journal publication schedules, however, that gives Otsuka a six-month head start at commercializing any impor-

BIG YEN ON CAMPUS

Company	University	Technology
HITACHI	UC Irvine	Biotechnology
OTSUKA PHARMACEUTICAL	University of Washington	Medicine
KOBE STEEL	North Carolina State University	Diamond films
NEC	Princeton	Advanced computers

DATA: BW

tant research from the center—some supported by U.S. taxpayers.

The U.S., however, may be the winner when Kobe Development Corp., a subsidiary of Kobe Steel, completes a lab it is building near the campus of North Carolina State University in Raleigh. Its immediate target: thin-films of diamond that promise to produce superhard coatings for tools and computer chips that can operate at high temperatures. Over the next three years, Kobe's lab will spend about \$8 million on diamond research, employing 10 to 20 researchers. According to Rustum Roy, a leading diamond-film researcher at Pennsylvania State University, Kobe's presence will boost American technology. Says Roy: "The fact is, they're ahead of us."

The Japanese are not ahead of the U.S. in advanced computers, however. And that's what Japan's NEC plans to study at a new research institute it's building near Princeton University in New Jersey. "The purpose of [the lab] is to give NEC an improved view of the field," says Joseph A. Giordmaine, a former Bell Laboratories Inc. computer scientist who is vice-president for physical sciences at the NEC Research Institute.

SCRAMBLING FOR MONEY. The improved view will be provided by a staff of 120 American researchers, most recruited from universities. All of the institute's work will be published. Over the next five years, NEC will spend about \$75 million on the facility. Although the NEC lab is not affiliated with Princeton, Stuart C. Schwartz, chairman of Princeton's electrical engineering department, says he will invite NEC staff members to teach courses. And NEC's Giordmaine expects graduate students to conduct thesis research in his laboratories.

Such ties between academia and industry are increasingly common in this era of scarce research money. It would be exceedingly difficult to limit Japanese contacts with American universities, and restrictions on funding and publication would probably harm basic research. But many in the U.S. worry that Japanese companies will gain valuable knowledge at the expense of American competitors. "It's appropriate for Congress to make sure that American companies are given equal access" to American university research, says Representative Ted Weiss (D-N.Y.), whose House subcommittee recently conducted hearings on foreign access to government funded research.

Equal access is always hard to measure. But for an indication, it's not enough to look for the answer in the scientific journals. The real results will appear in the annual reports of Japanese or American companies.

By Daniel P. O'Neil in New York, with Neil Gross in Tokyo

People

ENTREPRENEURS

NOW, LEE HIRSCH WANTS TO SEW UP SUTURES

U.S. Surgical's controversial CEO is after J&J's 'lifeblood'



DESPITE HIRSCH'S CLASHES WITH ANIMAL-RIGHTS ACTIVISTS, USS IS A WALL STREET FAVORITE

It had all the makings of a dime-store mystery. Last Nov. 11, Marcus Mead picked up Fran S. Trutt in Queens, N.Y., and chauffeured her to the offices of U.S. Surgical Corp. in Norwalk, Conn. At the spot where Chairman Leon C. Hirsch would park his car the next morning, Trutt rigged a 12-inch pipe bomb. Instantly, police circled in and arrested her. Trutt, who said her desperate act was to protest the death of 1,000 dogs each year in U.S. Surgical's labs, is now awaiting trial for attempted murder. But whose idea was the bomb? It turns out that Mead was a detective on U.S. Surgical's payroll. Trutt's lawyers say she was set up.

Hirsch, 62, has clashed with activists for years, and they clearly have gotten under his skin. But while he admits that he has hired detectives to infiltrate animal-rights groups, he vigorously denies entrapping Trutt. "When the facts come out, the world will know we acted with prudence," he says.

Because of his bitter and sometimes bizarre feuds with animal-rights groups, it is easy to overlook Hirsch's accomplishments at U.S. Surgical. In the past five years, the surgical stapler company's earnings have shot from \$7.6 mil-

lion to \$23.2 million on 1988 sales of \$90 million. Its staplers, once considered a wild oddity, now are used to cauterize intestines opened during surgery, rejoin internal organs, and close off cancerous body parts. Using either metal staples that remain in the body or soluble materials, the staplers allow surgeons to work faster and more precisely than with traditional needle-and-thread sutures. By commercializing them, Hirsch has "revolutionized our practice," says Thomas Dailey, a chief surgeon at New York's Luke's-Roosevelt Hospital in New York City. **RETURN FIRE.** USS commands more than 70% of the stapler market. It has held that hefty market share for five years. And this is despite stiff price competition from Johnson & Johnson's \$1 billion-a-year surgical products division, Ethicon Inc. Rather than wage a priceless price war against a company with such deep pockets, Hirsch has improved original designs and pioneered their use in such areas as cesarean sections and exploratory surgery.

Now, having contained J&J in his market, Hirsch is returning fire. His target: the \$1.2 billion-a-year sutures business of which Ethicon controls 80%. To replace a full line of sutures by mid-1990,

ch is investing a total of \$26 million—more than last year's earnings. He says that by offering sutures he will be able to compete for large group contracts, an area where J&J has a pronounced edge because of its broad product line. Analysts reckon that a mere 10% of the sutures market would boost sales by 40%. Hirsch has grander dreams: "I'd be disappointed if we got just 10%—and Ethicon would be elated."

et sewing up more than 10% of the market may be tougher than he thinks. His biggest obstacle will be the popularity of Ethicon's sutures. Unless Hirsch can come up with something revolutionary, doctors will have little reason to switch. He won't discuss details of his new sutures until he gets final Food & Drug Administration approval, which he expects early next year.

Hirsch will need to hold on tightly to the stapler market, since leaving Ethicon's turf may invite retribution. With gross margins of about 60%, sutures contribute about 10% of J&J's earnings, analysts say. "I'm going after their lifeblood," says Goldman of Dean Witter Reynolds. A J&J spokesman says the company won't comment. But Ethicon could easily overwhelm USS's capacity, flood the market, and crush USS by pricing low and using marketing muscle. But Hirsch professes no concern, and investors share confidence. At about \$41 a share, USS stock is up 27% so far this year.

salespeople. They are known in the industry as aggressive and well-trained. Trainees undergo a grueling six-week crash course in the intricacies of stapling. This is what has animal-rights groups up in arms—the sales trainees learn to use the staplers on dogs, which are later destroyed.

"We don't need a corporate enterprise setting itself up as a teaching hospital," says Priscilla Feral, president of Norwalk-based Friends of Animals. "The



PROTESTING THE KILLING OF DOGS AT U.S. SURGICAL

cause is irrelevant to human health." Hirsch, a dog owner himself, argues that the need for training on live dogs is vital: "Human life is in the balance."

When he's not feuding with animal-rights activists, he's often fighting in court. A common theme: Hirsch's preoccupation with corporate secrecy and patent protection. In the early 1980s, he sued an executive recruiter for conspiring with USS employees to sell competing staplers. In a countersuit, the recruiter charged that Hirsch's detectives tapped her phone and even broke in on a private meeting. She won an undisclosed settlement from USS. Hirsch dismisses the incident as ancient history. "If people thought I was a sleazebag, we wouldn't be selling at 20 times earnings," he says.

SEC PROBLEMS. He has had problems with the government, too. In 1984 the Securities & Exchange Commission charged USS with overstating earnings before a stock offering by issuing phony sales receipts and shipping unordered products. After signing a consent decree, without admitting or denying the charges, Hirsch wrote off 60% of profits from the previous five years. He attributes the problems to fast growth and loose organization and would like to close the book on this chapter of his past, as well.

Most analysts would let him. Yet some fund managers still won't touch USS. Says one: "Call me when Lee Hirsch is no longer boss." The phone probably won't be ringing any time soon. "I'm enjoying myself," says Hirsch. Especially on those days when animal-rights people leave him alone.

By Christopher Tucher in Norwalk, Conn.

'If people thought I was a sleazebag, we wouldn't be selling at 20 times earnings'

Hirsch happened into the stapler business by accident. After growing up and attending high school in the Bronx, he did ad copy, sold frozen foods, and ran a dry-cleaning equipment business. In 1963, Hirsch was chatting with a patent broker in the office next door when he picked a Russian surgical stapler sitting on his desk. It was big and clumsy, but the broker had found zero interest in the U.S. But the next year, with four employees and a balsa-wood prototype stapler built in his basement, he founded USS. Hirsch and his wife, marketing executive Turi Josefsen, own 12% of the company—now worth about \$56 million. They have a 133-acre estate in Fairfield County, Conn., and a ranch in Montana. Much of the credit for USS's success is due to its high-charged team of 500

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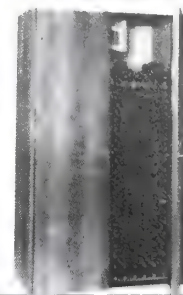
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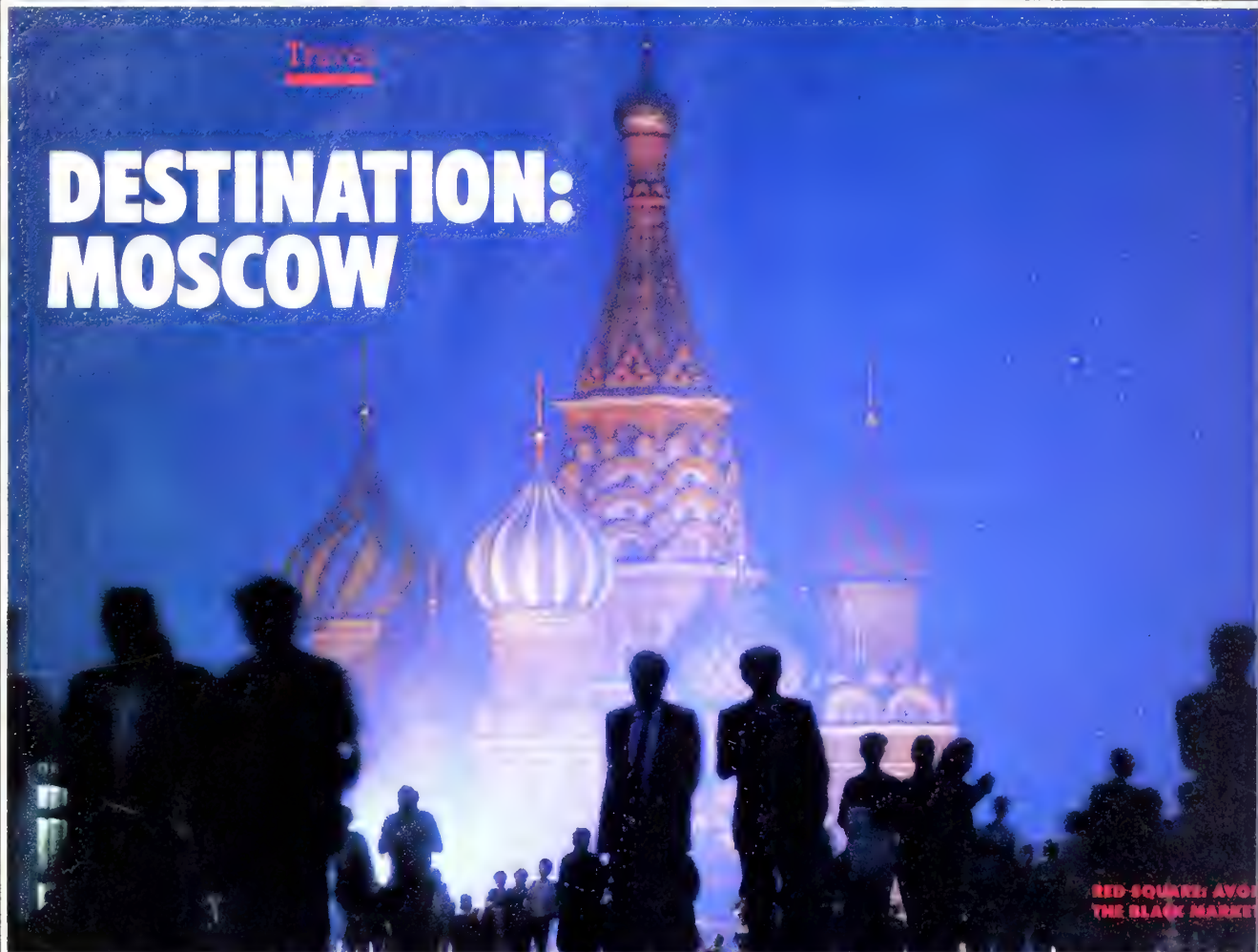
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EDITED BY MARC FRONS



DESTINATION: MOSCOW

RED SQUARE: AVOID THE BLACK MARKET

With the possible exception of Armand Hammer, Westerners generally find visiting and doing business in the Soviet Union difficult at best. Mikhail Gorbachev is quickly trying to change all that. But like everything else during these days of *glasnost* and *perestroika*, travel in the Soviet Union has taken two steps forward and a step and a half back.

Moscow now issues approvals for business visas faster—often in a matter of days. But with the big increases in visa requests, Soviet embassies are slow in locating the telexes authorizing them to issue visas. So after painstaking efforts setting up hotel reservations and

interviews with Soviet officials, executives often must sweat out getting their visas. They are frequently issued the day before departure.

Passport control and customs are easier than they used to be, especially at Sheremetyevo, Moscow's international airport, where most foreigners arrive. The process no longer assumes the cold war chills of a John le Carré novel. Like other countries, the authorities do ask for accurate declarations of foreign currency and often gold jewelry. Quick cooperation should get you through fast, although the process can take as long as three hours, depending on the load.

GYPSY HACKS. Next, you'll need a taxi. Good luck. At Sheremetyevo, you can stand in line for an hour and fight over an official taxi. Or if you speak a little Russian, you might hire

one of the gypsy hacks who vigorously seek your business at the airport door. The fare to most hotels is in rubles, though many drivers prefer a few packs of Western cigarettes.

The airport may also be your first exposure to the ubiquitous Soviet black market. Since you'll be on your own or in a small group, you're more likely to be approached than tourists, who are usually herded around in large groups. The black marketers offer currency exchange rates that are up to sixteen times better than the official one. But trading money can bring big trouble from the police. Some shady types will want to buy the shoes on your feet. A firm refusal usually will shoo them away.

The next hurdle is a hotel, which must always be booked in advance. This can be on



CAFE LASAGNA: PASSABLE PASTA, \$25 A HEAD

ugh a Western travel
t or a Soviet ministry or
ncy. The latter is prefera-
since Moscow is short of
l space, and the officials
have clout.

"The hotels charge big-time
es for little-time service,"
ns one Western business
ran in Moscow. Ironically,
phenomenon has actually
sened under Gorbachev.
of his reforms requires
Soviet agencies to turn a
it. Hence, hotel managers
all the precious hard cur-
y they can from foreign-
while cutting back on al-
ly poor service and
hing on room repair.

ING PAINT. This is true at
three most desirable ho-
for business travelers:
National, the Mezhdunar-
aya (International), and
Intourist. The historic Na-
al Hotel, near Red Square,
rs luxury suites reminis-
of the era of Catherine
Great. While the standard
is \$450 a night, you'll
the suites' "period" furni-
badly beaten up and
t peeling from the walls.
t the three hotels, a "first-
s" room, which means a
and a private bath with
els better used for kitchen
es, runs approximately
a night. "Deluxe" accom-
ations, with perhaps two
ns and a refrigerator, cost
n \$200 to \$330 a night.
t rooms have enormous
et television sets that are
ays left unplugged be-
e they have been known
xplode.

Of the lot, the
Mezhdunarodnaya,
built by Kremlin pal
Armand Hammer, is
the most appealing
and modern, featur-
ing a Hyatt-style
atrium and several
expensive restau-
rants. But it also is
the most difficult to
get into, since fore-
ign corporations
book entire blocks of
rooms over time for
their executives.
New luxury hotels
are due soon, such
as the Savoy, and
the Metropole in
Moscow, and in Len-
ingrad, the Astoria.
Several will have Eu-
ropean management,
which assures im-
proved service.

Dining out is
equally peculiar. Ho-
tel "breakfasts" usu-
ally involve snail-like
service and two rub-
les' worth of cof-
fee, mystery juice, a hunk of
good Russian black bread,
cheese, and something like a
hot dog called *kolbassa*.
Lunch can take forever—and
the maitre d' may not seat
you at all. If you're alone, he
may insist on placing you
next to a stranger, even when
the restaurant is empty. Your
best bet may well be a Rus-
sian *stoloraya*, or working-
class cafeteria. The food is
cheap, and sometimes decent
if you aren't too finicky about
sanitation.



SOVIET HOTELS NOW HAVE TO TURN A PROFIT

As for dinner, it must be
planned like a war campaign.
Hotel "service bureaus" can
book you a table. But the bet-
ter hotel restaurants, like Sa-
kura, a Japanese sushi spot at
the Mezhdunarodnaya, or the
overly pricey Riviera, a
French restaurant on a boat
berthed nearby, usually are
booked days in advance.

Not to worry. One of the
great achievements of *peres-
troika* is new cooperative and
joint-venture restaurants. You
usually need to book ahead
and will need a taxi. But the experience, the
food, and the service
are usually worth it.

Yakimanka, near the
Kremlin, features *uz-
bek* food from Central
Asia, such as steamed
meat pies and spicy
rice dishes with lamb.
Prices run about \$20
per person. The hard-
currency section of
Delhi offers good Indi-
an food and polite ser-
vice. The Soviet-Bel-
gian Glazure, near the
foreign ministry,
serves up heavy Rus-
sian *zakuski* appetiz-

ers, including caviar,
plus continental dish-
es in a classy atmo-
sphere with a jazz
band for about \$35 a
head. And Cafe La-
sagna, not far from
the Kremlin, offers a
respectable Soviet
version of Italian
food for about \$25 a
person.

These days, it may
be best to set off on
your own for some
food and fun, espe-
cially if your hotel
service bureau
proves unhelpful.
You can often buy
same-day classical
music tickets at

street kiosks for as little as
two rubles. However, tickets
to the Bolshoi Ballet are best
gotten for hard currency at
your hotel. In Moscow, you
can see the Kremlin or the
Pushkin art gallery easily on
your own. In Leningrad, you
can spend a pleasant summer
evening at the extravagant
Petrodvorets (summer palace)
via hydrofoil. You can get
tickets at a boat quay next to
the Hermitage art gallery for
eight rubles.

42ND STREET. So, it's the end
of the day and you really de-
serve a nightcap. The only
real bars in the Western
sense are at foreigners' hotels
and take hard currency. Most
have the ambience of a sleazy
42nd Street dive, but the
prices are definitely worthy of
ritzier Western hotels. This
may be why many hotel
rooms have refrigerators.

The day before leaving, re-
member to fill out a currency-
declaration form, showing
less money than you brought
in. Once you pass customs,
watch for the airplane gate
change. They don't always
tell you when they move the
gate.

Peter Galuszka



EL MEZHDUNARODNAYA: NIGHTLIFE AND RITZY PRICES

Dining

GOING HAUTE IN THE HEARTLAND

Midwestern cuisine. For years, gourmets considered the idea a contradiction in terms. But travelers to the Midwest who are weary of steak houses might be interested to know that, gastronomically speaking, there's more going on than *haute* cuisine hamburgers. Some of the heartland's most gifted chefs are rediscovering their region's culinary roots—and receiving rave reviews.

Hearty dishes such as Iowa pheasant with apples, chestnuts, and cranberries; charred buffalo steak with sun-dried-tomato relish; and warmed Indian persimmon pudding with dried blueberries exemplify this emerging style.

BURGOO MEISTER. One of the new cuisine's leaders is Stephen Langlois, the 27-year-old executive chef of the Chicago restaurant Prairie (312 663-1143), located in the Omni Morton Hotel in Chicago's



CHEF STEPHEN LANGLOIS' TASTY TERRINES LURE DINERS TO PRAIRIE

South Loop. Langlois spent a year rummaging through old church cookbooks, tasting prize-winning pies, and researching turn-of-the-century Midwest settlement recipes to come up with ideas for the restaurant's menu.

From his search, he has fashioned an offering that includes such specialties as winter burgoo, a stew of buffalo, rabbit sausage, and winter vegetables; smoked trout ter-

rine with horseradish-dill mayonnaise; and sweet potato praline cheesecake. Entrées range from \$14 to \$21, and a full meal for two, including drinks and tip, averages \$120.

Another enthusiast is Richard Perry, owner and executive chef of the restaurant of the same name, which is in the Majestic Hotel in downtown St. Louis (314 771-4100). Noted for such dishes as spring morels stuffed with

smoked game sausage, baby white asparagus with Miso, and black walnuts, and grilled wild lake trout, Perry follows the same principle that guides Langlois' cooking: Use local ingredients to create hearty meals. "There will always be a place for two-pound sirloin steaks in the Midwest," says Perry. "But that's not what we're trying to do." Entrées cost \$14 to \$22, and a full meal for two, with wine, averages \$110.

Other restaurants featuring the new cuisine are the American Restaurant in Kansas City, Mo. (816 471-8000), Tapawingo in Ellsworth, Mich. (616 588-7971); and Parker's in Cleveland (216 881-0700). Reservations are a good idea at all these places. *Julia Flynn*

law. Many securities lawyers, including the Coalition Against Investment Fraud based in Revere Beach, Mass., will review your contract free of charge.

Some lawyers recommend that investors sue in small groups rather than on behalf of the whole class, which cuts down on the award. As the general partner for the current list of limited partners, which he is obligated to give you.

Preparation for a suit can cost as much as 5% of your original investment. Herbert Beigel, a New York securities lawyer, reckons 1,200 investors chipped in nearly a million to pursue one general partner. If not enough investors are interested, he says you might as well forget litigation. *Laura Jernigan*

Smart Money

RELPs: IS IT BETTER TO BAIL OUT—OR MUTINY?

Real Estate Investors XIV: One dealer quoted \$500, another \$250 for a unit that originally sold for \$1,000.

Selling doesn't necessarily end the pain. You may still owe the Internal Revenue Service. How can that be? While you may only recoup \$5,000 of a \$10,000 investment, limited partners also share responsibility for debts of the partnership. And many RELPs, especially those in trouble, have borrowed heavily. Say your share of the debt is \$7,000 per unit. By selling, you shift that li-

ability to the buyer, so the IRS views that as income taxable to you, and you could end up with a net gain on the transaction.

PITFALLS. Perhaps you'd rather fight than switch. Partnership litigation is on the rise, but pitfalls abound. Most states have short statutes of limitation, which expire when the partnership is relatively young.

Even if you manage to sue in time, losses alone don't win lawsuits: You'll have to prove fraud, malfeasance, or a similar breach of securities

To dump or not to dump? That is the question confronting investors saddled with units of real estate limited partnerships (RELPs). The values of many of these partnerships have sunk under the weight of tax reform and depressed markets. The choices aren't pretty. But blindly rushing to unload them may cause even more headaches.

If you can afford to hang on, do so and hope that the partnership recovers. But if you must get out, get every quote from the dozen or so firms that make up the secondary market for RELP units. Your broker can provide a list. The market makers don't bid on every deal, and when they do, you might wish they hadn't. Prices fluctuate wildly. Take Carlyle

JUST WHO DO SOME AIRLINES THINK THEY'RE FEEDING?

Based on the quality and quantity of food being served, some airlines just think their passengers eat like birds.

So the next time you find yourself picking at a dull little airline meal, consider this. Over the past five years, Alaska Airlines has invested more

money per passenger on quality food and drink than any scheduled domestic airline—spending more than twice the industry average.

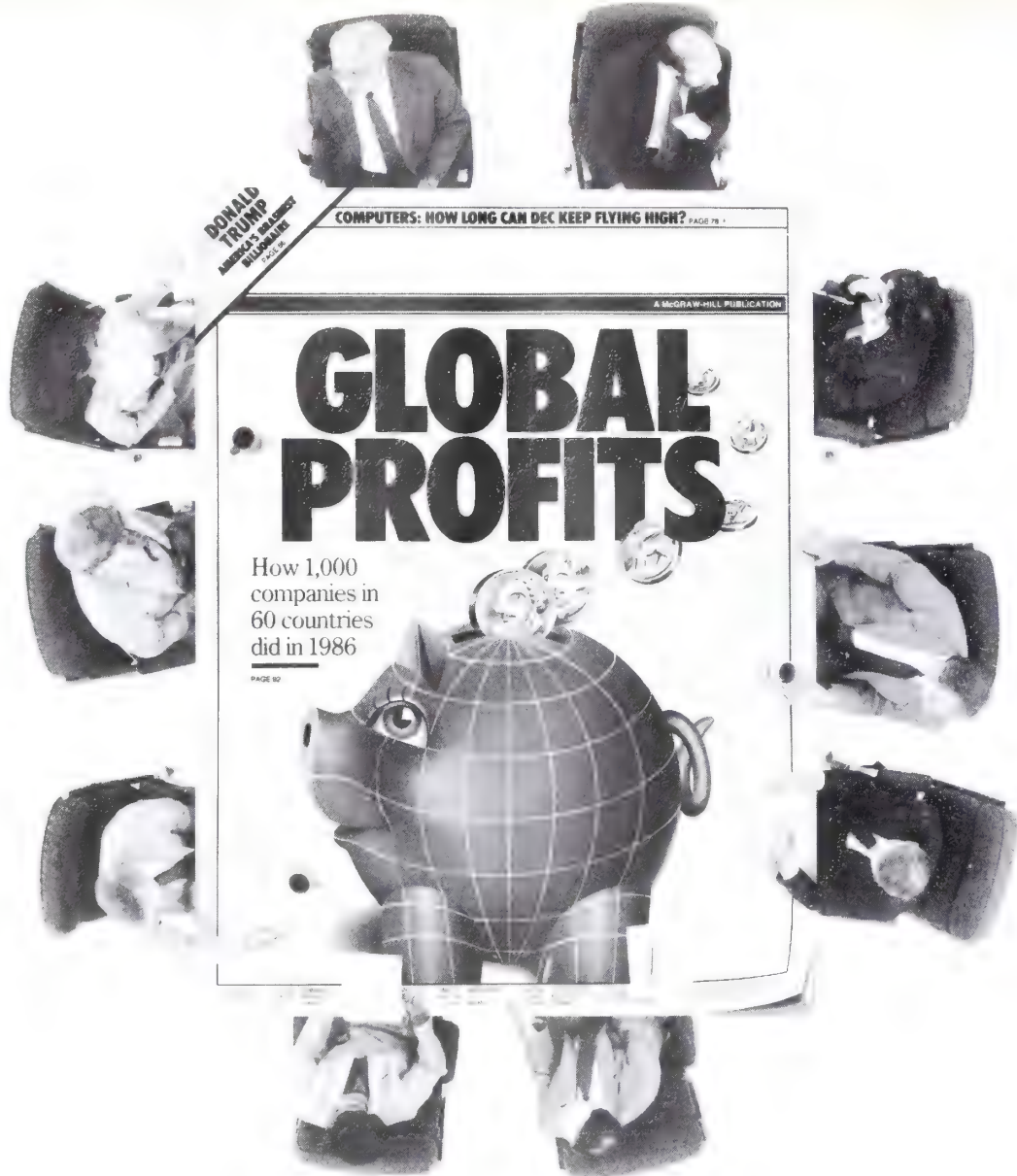
That means you can expect tasty entrees like Braised Beef Tips with all the trimmings. Plus fine wine or

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1987, MCGRAW-HILL, INC.

looking for a better way to organize your life? The hottest new product in the booming time-management market are software programs that let you do everything from updating your calendar and expense account to organizing the piles of information you normally keep on your desk.

The best of these programs has clear advantages over traditional business diaries and planners published by companies as Day-Timer and Filofax. True, a paper-based system is easier to use when you're away from

the office. But just word processing programs can make editing documents a snap, these programs will help you use the information you need. There are about two dozen time management and personal-information manager programs on the market for IBM-based PCs. A sampling:

Who, What, When, Chronos Software (\$190), is one of the most impressive of the new programs. It has the power to cross-reference information to help you track current projects. If you schedule a meeting with your boss to discuss a project, for instance, it will be entered on your calendar, in the file for that project, and in the file that logs dealings with your boss. The program also alerts you automatically for any projects to the new appointments. And there's an alarm to remind you as the appointment draws near.

ROLODEX. Act! by CompuLink Software International is especially useful for people and others trying to manage a large number of personal contacts. The program simplifies the process of maintaining records by tracking your phone calls, letters, and other dealings with each of your key contacts. It offers an automatic dialer, plus a

Software

LET YOUR COMPUTER BE YOUR DATE BOOK

word processor for amending form letters easily. Like almost all these programs, it also has a calendar.

Symantec's GrandView (\$295) is especially attractive to those who do a lot of writing and like to see information in outline form. Jim Butler, a Los Angeles securities lawyer, uses the program to

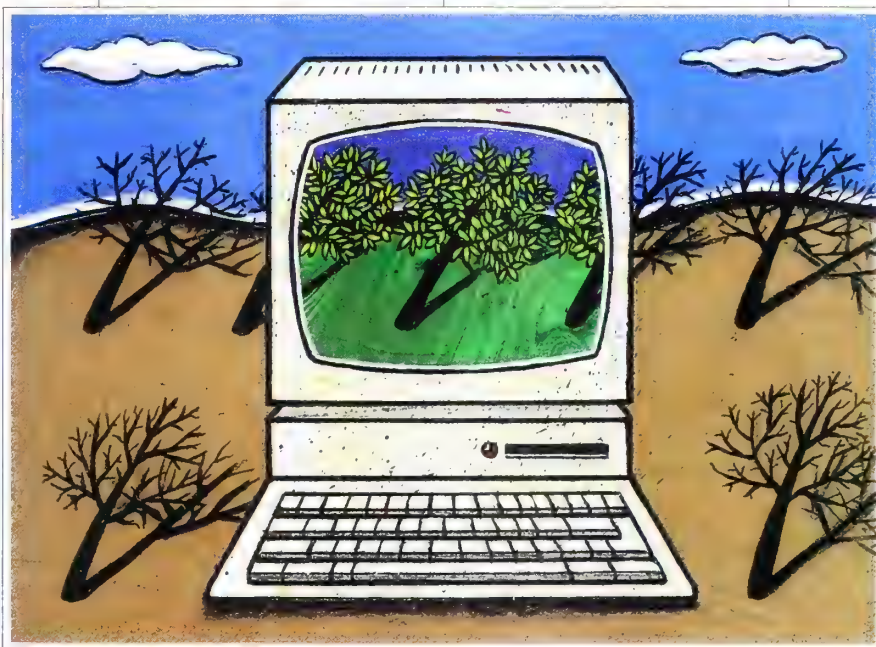
freedom to devise your own organizing principles. The program, the brainchild of Lotus founder Mitch Kapor, offers powerful sorting and searching features that let you view random bits of information by priority, subject, date, and a host of other categories. Recently, Randy Fields, chairman of cookie maker Mrs.

are now using the program to track their own and subordinates' tasks. "It's improving the quality of our management," says Fields, "because it keeps things from falling through the cracks." Lotus recently introduced a startup kit that helps users enter information right away. Still, the program can be a nightmare to learn. Fields says it took him 60 hours.

MAC MINDER. At the opposite end of the spectrum, Borland International's venerable Sidekick (\$85) is one of the simplest, most practical planners on a disk. A number of time management counselors use the program to manage their own time. Sidekick contains a calendar, a notepad, a phone directory, and an autodialer, among other features. It also has a pop-up feature, which allows you to use Sidekick without exiting the spreadsheet or other program you might be using.

Finally, for devotees of Apple Computer's Macintosh, there's Mediagenic's Focal Point II (\$200), perhaps the best information manager for Mac users.

Even the best of these programs are all but worthless unless you use them regularly. Ask yourself how much time you're willing to put into mastering the program. Unless you're a computer jock, you'll probably be far better off with one of the simpler programs, even if it offers less power. *William Symonds and Maria Shao*



update a monthly record of how he spent each day and then to bill clients. He keeps several files on-screen at all times: a to-do list, a phone directory, and a "deal sheet" with notes on current cases.

While these programs guide you in structuring your time, Lotus Development's Agenda (\$395) gives you the

Fields' and an Agenda devotee, had a list of 271 items organized into 75 categories, such as "tomorrow remember," and "urgent today." If he types, "Get allergy shots every other Tuesday," Agenda reminds him on the appropriate days.

Fields is so impressed that 40 managers at his company

Worth Noting

■ **GROWTH GUIDE.** For five free in-depth guides that explore topics such as raising venture capital, strategies for going public, and financing business growth, take a look at Deloitte Haskins & Sells' Entrepreneur's Guidebook Series (212 790-0798).

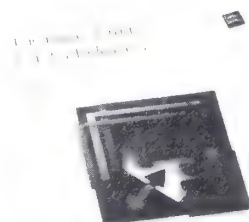
■ **STARRY NIGHTS.** The giant Perseid meteor shower will be at its peak from Aug. 11 to 13. Stargazers can see as many as 40 shooting stars per hour in the northeast sky. The best viewing is early morning, far from city lights.

■ **WOODWORKS.** The Shaker Workshops catalog (617 646-8985) carries make-it-yourself

kits for everything Shaker, from the classic boxes (\$21 and up) to a chandelier for real candles (\$135).

■ **OLD FAITHFUL.** Yellowstone National Park is slowly recovering from last year's wildfires. For \$699, Backcountry Bicycle Tours (406 586-3556) will take you on a six-day trip that includes lodging and meals.

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Index to Companies

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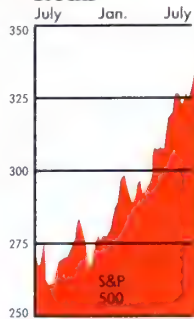
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Investment Figures of the Week

STOCKS

Summer heat fired up Wall Street. The Dow Jones industrials posted a crash high on July 26, now stand some 4% from the peak. The broader Standard & Poor's 500 has scaled new heights, besting the 337 mark set 18 months ago. There's plenty of money in Tokyo, too. Investors cheered off the repudiation of the Liberal Democratic Party. The Nikkei index shot up nearly 1% for the week, and the yen gained ground against the green-

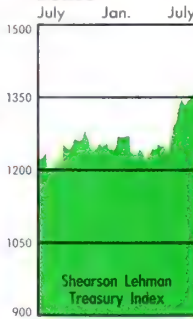
STOCKS



52-week change
+28.8%



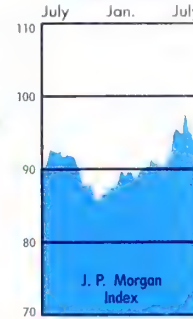
BONDS



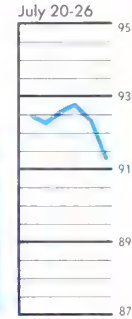
52-week change
+10.8%



THE DOLLAR



52-week change
+1.8%



MARKET ANALYSIS

STOCKS	Latest	% change Week	% change 52-week
DOW JONES INDUSTRIALS	2613.1	1.1	27.2
COMPANIES (Russell 1000)	178.1	0.5	27.6
COMPANIES (Russell 2000)	173.4	-0.4	16.6
COMPANIES (Russell 3000)	190.8	0.4	26.7

FOREIGN STOCKS	Latest	% change (local currency) Week	% change (local currency) 52-week
DOW JONES (FINANCIAL TIMES 100)	2264.5	-1.2	23.0
NIKKEI INDEX	34,515.8	2.9	24.4
TSE COMPOSITE	3935.2	1.6	18.0

FUNDAMENTALS

	Latest	Week ago	Year ago
90-DAY TREASURY BILL YIELD	8.3%	8.2%	7.2%
30-YEAR TREASURY BOND YIELD	8.1%	8.1%	9.3%
S&P 500 DIVIDEND YIELD	3.3%	3.3%	3.7%
S&P 500 PRICE/EARNINGS RATIO	13.2	13.1	12.0

TECHNICAL INDICATORS

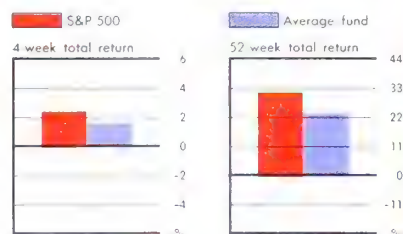
	Latest	Week ago	Reading
S&P 500 26-week moving average	308.6	306.7	Positive
Stocks above 26-week moving average	64.3%	65.6%	Neutral
Speculative sentiment: Put/call ratio	0.25	0.22	Negative
Insider sentiment: Vickers sell/buy ratio	2.16	2.16	Neutral

INDUSTRY GROUPS

WEEK LEADERS	% change 4-week	% change 52-week	Strongest stock in group	% change 4-week	% change 52-week	Price
CONSUMER ELECTRONICS	9.7	18.8	HONEYWELL	14.1	35.0	86 7/8
ENTERTAINMENT	9.6	73.2	WARNER COMMUNICATIONS	12.3	87.6	66 1/8
TELEVISION CONTROL	9.2	60.0	ZURN	13.0	84.8	42 1/2
AIRLINES	7.4	70.9	UAL	32.0	93.2	183 3/4
OIL & WELL EQUIPMENT AND SERVICES	7.4	25.0	HALLIBURTON	13.4	22.9	34 7/8
WEEK LAGGARDS	% change 4-week	% change 52-week	Weakest stock in group	% change 4-week	% change 52-week	Price
RECREATION TIME	-10.4	-6.8	OUTBOARD MARINE	-20.6	-2.8	30 7/8
SEMICONDUCTORS	-6.6	-8.3	ADVANCED MICRO DEVICES	-12.3	-36.0	8 7/8
SHIPPING	-6.3	28.5	TIME	-15.9	42.3	137 7/8
BANKS AND LOANS	-5.2	49.7	GOLDEN WEST FINANCIAL	-9.5	64.7	45 1/2
MANUFACTURED HOUSING	-5.1	17.4	FLEETWOOD ENTERPRISES	-5.8	17.3	26 1/4

MUTUAL FUNDS

WEEK LEADERS	% 4-week total return	% 52-week total return	LAGGARDS	% 4-week total return	% 52-week total return
ENVIRONMENTAL AWARENESS	8.7		FIDELITY SELECT SOFTWARE & COMPUTER	-5.8	
FIDELITY SELECT ENERGY SERVICE	8.2		FIDELITY SELECT ELECTRONICS	-4.9	
FIDELITY SELECT MEDICAL DELIVERY	7.8		FIDELITY SELECT COMPUTERS	-4.7	
WEEK LAGGARDS	% 4-week total return	% 52-week total return		% 4-week total return	% 52-week total return
AMERICAN SMALL CAPITALIZATION PORTFOLIO	55.0		STRATEGIC GOLD/MINERALS	-24.5	
AMERICAN GROUP TREND	51.3		STRATEGIC SILVER	-23.1	
FIDELITY SELECT BROADCAST & MEDIA	51.0		VAN ECK GOLD/RESOURCES	-16.3	



RELATIVE PORTFOLIOS

Relative portfolios	U.S. stocks	Treasury bonds	Foreign stocks	Money market fund	Gold
Amounts sent the present of \$10,000	\$12,811	\$12,428	\$12,159	\$10,702	\$8,396
Returned one year	+0.76%	+0.63%	+2.34%	+0.16%	-0.12%

Figures on this page are as of market close Wednesday, July 26, 1989, unless otherwise indicated. Relative portfolios include S&P 500 companies only; performance and share prices are as of market close.

July 25. Mutual fund returns are as of July 21. Relative portfolios are valued as of July 25. A more detailed explanation of this page is available on request.

RETHINKING JAPAN: YES, BUT . . .

Practically everyone has heard the story: A foreign company reaches an agreement to sell its products in Japan. The goods arrive, a lot of money is spent on promotion, new offices are opened, but nothing gets sold. The familiar reasons are offered by the Japanese: Your products were too big, your quality was too low, you didn't try hard enough, you don't understand the market, you never read the fine print. Defeated, the foreigners slink back home.

Now, there's another explanation emerging from a small but influential group of Western writers, government officials, and academics, all of whom argue that the trade situation in Japan is truly different from those of Western economies. Instead of being a domestic-oriented, consumer-driven free-market society, Japan's economy is directed by a bureaucracy that supports Japanese industry, protects domestic markets, and promotes overseas expansion (page 44). Moreover, the revisionists argue, the Japanese culture discourages outsiders. The results are clear, the revisionists say: In the last three years, America has cut its trade deficit with Europe in half. Yet its deficit with Japan has improved hardly at all.

What to do? Up to a point we agree with the revisionists. Yes, Japan is different, and it does need external pressure to be more open. Moreover, the trade deficit is not just America's problem. It is up to Japan as well to help reduce the trade deficit at a faster rate simply because it is untenable—and potentially destructive.

But the revisionist thesis contains obvious dangers. First of all, the arguments must not be used to cover up America's own shortcomings: the budget deficit, short-term thinking, low rates of capital investment, deteriorating education, poor quality control. Second, revisionism could lead to protectionism, which is already building in the U.S., according to our latest poll. And finally Japan is still our ally. We are not in favor of managed trade, and the prospect of strong-arming a specific share of the Japanese market for ourselves is not for us. But the Japanese simply must understand that this is as much their problem as it is ours. The bottom line is that the \$52 billion trade deficit has to come down.

BUSH'S CLEAN AIR PLAN COULD USE MORE TEETH

President Bush made a lot of promises when he outlined his clean air plan in June. And he kept many of them when he unveiled his 279-page proposal to amend the Clean Air Act on July 21. The proposal is gutsy in its effort to rid the U.S. and Canada of acid rain and to introduce cleaner fuels into wider use. Most important was Bush's attempt to fashion a bill at all given the regional and

industry conflicts that have thwarted legislation for the past decade.

Yet the proposal has considerable flaws. Bush could have been tougher on cars, trucks, and buses, the key villain causing smog. He would toughen tailpipe emission standards for hydrocarbons, but he opts for a formula that would allow some makes of cars to exceed even today's standards. He shies away from ordering carmakers to install pollution-control equipment for the lifetime of a car. Environmental Protection Agency officials favor. And the timetable for controlling pollutants from chemical plants could be tighter.

Perhaps the most critical defect is that Bush's plan gives the EPA administrator too much discretion to issue rules in a variety of areas. Administrator William K. Reilly promises that his EPA will be a tough regulator. But given the Reagan Administration's sorry record, it's understandable that Congress is reluctant to rely on the good faith of appointed officials at the EPA. Congress could err by imposing requirements that are too ambitious and too rigid. But a balance must be struck to ensure that the air in the 21st century is healthier than it is now.

BLACKS NEED MORE THAN A SOUND ECONOMY

A massive and long-awaited study by the prestigious National Academy of Sciences on the status of blacks in American society suggests that a vibrant economy is not, on its own, enough to help blacks. Reagan Administration policymakers held that Great Society programs created a "culture of poverty," so they emphasized a strong economy rather than expensive government programs. The NAS study conclusion: Government programs for strong antidiscrimination efforts, and self-help organizations are critical to boosting the living standards of blacks.

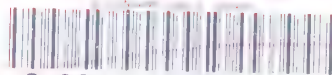
The report documents remarkable gains for blacks in the past 40 years. It offers proof that civil rights laws, desegregated schools, job training, affirmative action, financial aid for students, and other programs helped fuel the growth of a black middle class.

Yet the progress of black Americans in many key areas has stagnated or declined over the past 15 years, despite the longest economic expansion in U.S. history. Wages for black men without high school diplomas tumbled, the percentage of blacks going to college declined, the unemployment rate for black men soared, and fully 43% of black children live in poverty. "If these statistics characterized the entire country, we'd regard it as a catastrophe on the level of the Great Depression," says Cornell University sociologist Robin M. Williams, head of the committee that produced the report.

The NAS report reflects the consensus of dozens of specialists of various political viewpoints. And its implications are clear. The government as well as private groups must play major roles if we are to break the cycle of poverty for millions of blacks—and strengthen American society as a whole.

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BusinessWeek



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AUGUST 14, 1989

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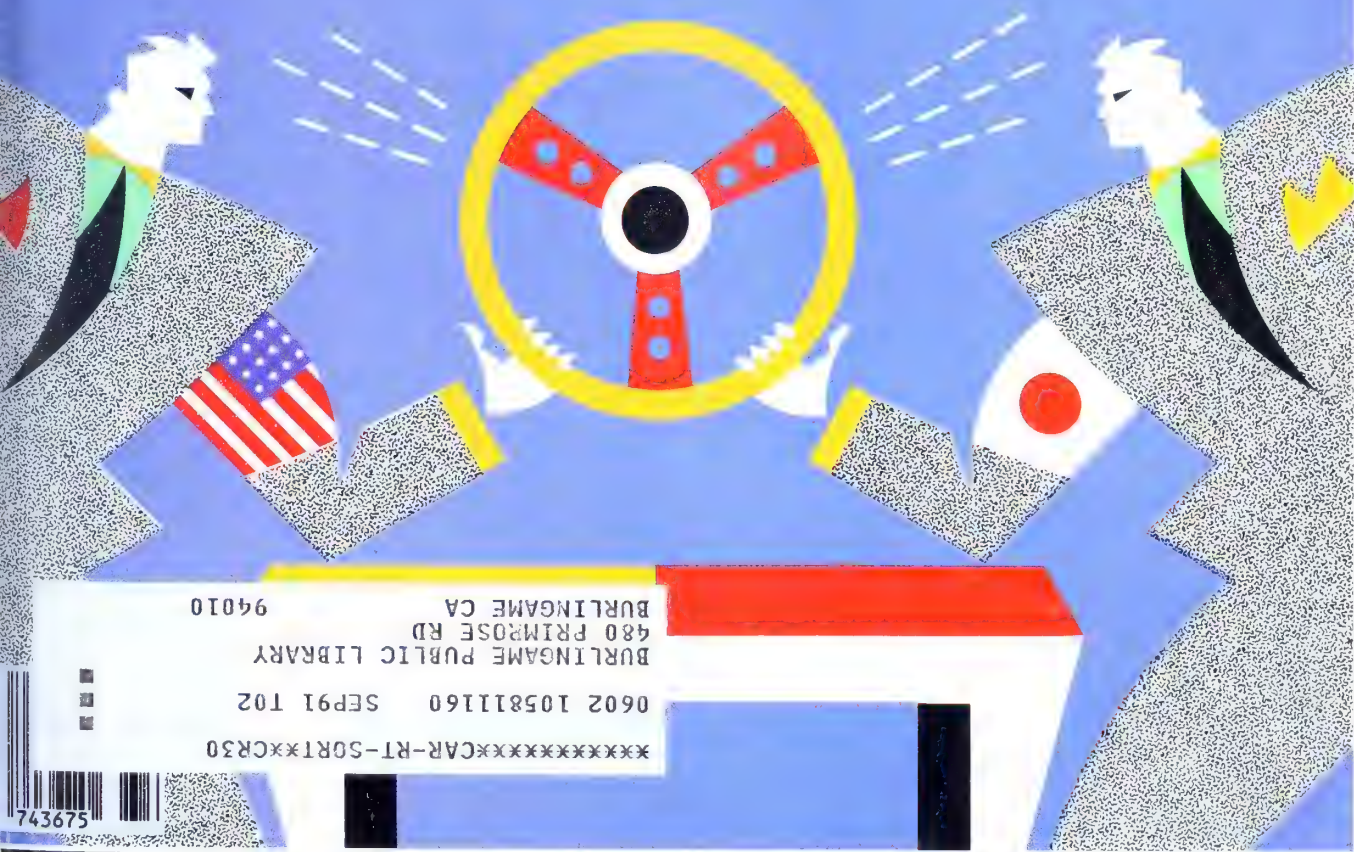
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SHAKING UP DETROIT

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How Japanese Auto Plants in the U.S. Are Changing the Big Three

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It's a story Steve Jacobs hates to remember, but loves to tell...

His Steelcase[®] dealership, Stevens Office Interiors in Syracuse, was just days away from finishing a project for the New York Power Pool in Guilderland, when somebody realized they'd ordered \$24,000 worth of components—everything from binder bins and lights to workstations—in the wrong paint color.

Jacobs was beside himself.

Absolutely had to do the installation on time. Could see his customer walking their contract right out the door. Just knew he'd end up eating the job.

At 8:01 the next morning, he called Dealer Services in Grand Rapids. Martha O'Connor picked up the call. She winced. "Your order is being manufactured in *five* different plants,

some of the parts are already on trucks, *and* it's New Year's Eve. But," she added, "I'll see what I can do."

Martha called back in a couple of hours. Three of the plants had already started the repainting, and the trucks were being off-loaded.

The whole order shipped out in the right color on January 2nd, a day ahead of schedule.

Jacobs thanked his lucky stars he was a Steelcase dealer.

Thanked Martha. Wrote her boss...

"The amazing thing is," he recalls, "Martha didn't have any direct authority. But when she called the plants and said, 'We have a dealer who has a problem and that means we have a problem. Our customer needs help,' people said, 'No problem, we'll do it.'"

Was it a Happy New Year? You bet.

Happy New Year.

**"I said forget about software for small business,
give me *the* software for *my* business."**

An IBM AS/400 mid-range computer runs over 5000 applications to help you run your kind of business.

The last thing a small business needs is a computer solution based on the idea of smallness.

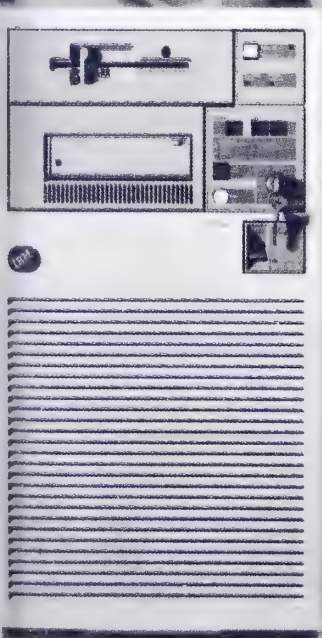
Yet you hear things like, "It's the perfect inventory package for small business," as if inventories of car dealers, grocery stores and real estate brokers had much in common.

So, when we talk about our Application System/400,* the question "What do you do?" comes way before "How big are you?"

The IBM AS/400 runs over 5,000 applications, so the first order of business is choosing the one that's best for you.

Retailers, manufacturers, distributors, law firms, banks, school boards, you name it, they all find powerful, proven AS/400 software designed to meet their special needs.

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And no matter how big your AS/400 gets (from a few users to hundreds), the software you started with will always be able to serve you.

What's more, an AS/400 is easy: to learn, to use and (starting around \$25,000) to pay for. Which helps to explain why in a major survey of midrange system

owners, the AS/400 users showed the highest level of satisfaction.*

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The IBM AS/400. It's the solution that recognizes what all small businesses have in common.

They're all different.



The AS/400 Model B10 is just over 2 feet tall.



UNION DISORGANIZERS: NISSAN'S SMYRNA (TENN.) WORKERS SENT THE UAW A MESSAGE—ITS GRIP IS WEAKER THAN EVER

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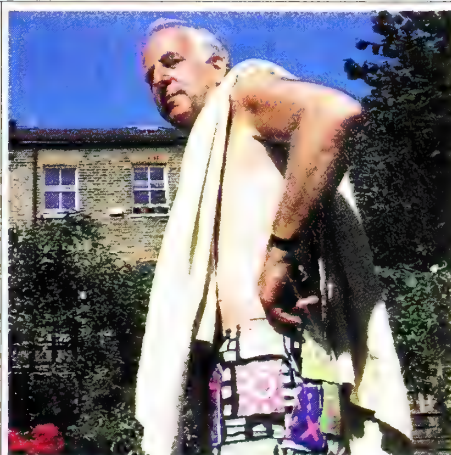
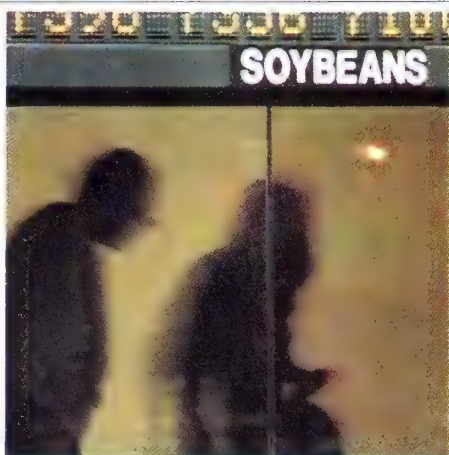
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ESPN'S INTERNATIONAL ARENA
Can it sell cable sports abroad?

The Corporation

FILLING BRISTOL-MYERS' Rx
Its merger with Squibb is a standout, pooling both houses' strengths in research and marketing

USAir's PROMISING FLIGHT PLAN
Will a takeover threat foil Chairman Colodny's methodically plotted merger with Piedmont?

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REWIRING NORTHERN TELECOM
The faltering giant's new chief sees austerity as the way to revive profits—and expand in the 1990s

VARNISHING DEC
A slump prompts new products and a reorganized 30,000-strong sales staff

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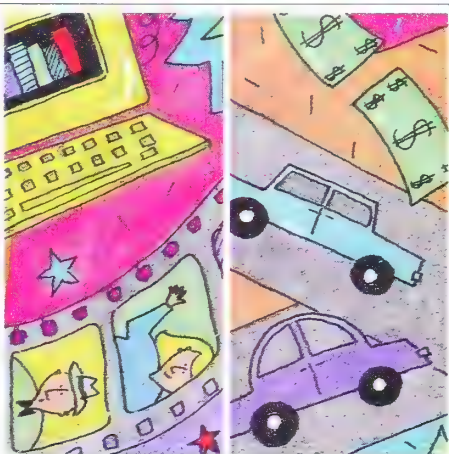
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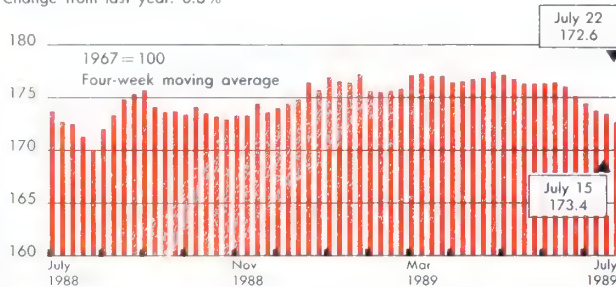
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Leave the Social Security tax alone

BusinessWeek Index

PRODUCTION

Change from last week: -0.5%
Change from last year: 0.8%

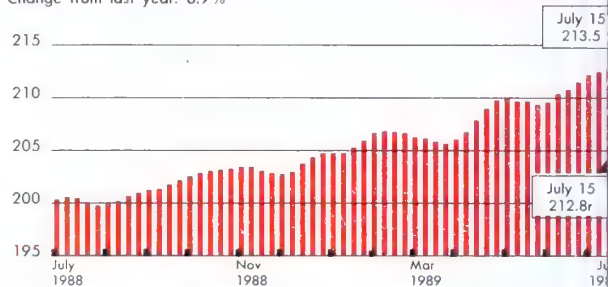


The production index fell for the week ended July 22. The index has weakened significantly since early May. Seasonally adjusted output of lumber, electric power, crude-oil refining, and steel declined. Auto and truck production rebounded after sharp drops last week. And coal, paperboard, paper, and rail-freight traffic posted increases as well. Prior to calculation of the four-week moving average, the index dropped to 171.3 from 172.5 in the week before.

BW production index copyright 1989 by McGraw-Hill Inc.

LEADING

Change from last week: 0.3%
Change from last year: 6.9%



The leading index increased for the week ended July 22. All six available indicators contributed to the increase, the eighth consecutive weekly advance. The were higher stock prices, slightly lower bond yields, a decline in the number of business failures, and faster growth rates for materials prices, real estate loans, and M2. Before calculation of the four-week moving average, the index rose to 214 from 213.9 in the previous week.

Leading index copyright 1989 by Center for International Business Cycle Research

PRODUCTION INDICATORS

	Latest week	Week ago	% Change year ago
STEEL (7/29) thous. of net tons	1,856	1,850 #	-5.1
AUTOS (7/29) units	86,851	83,044r #	18.1
TRUCKS (7/29) units	62,975	71,602r #	-11.8
ELECTRIC POWER (7/29) millions of kilowatt-hours	63,206	59,161 #	2.8
CRUDE-OIL REFINING (7/29) thous. of bbl./day	14,176	13,947 #	2.7
COAL (7/22) thous. of net tons	16,857 #	13,842	-5.8
PAPERBOARD (7/22) thous. of tons	759.2 #	743.4r	3.9
PAPER (7/22) thous. of tons	717.0 #	685.0r	2.3
LUMBER (7/22) millions of ft.	506.5 #	486.1	11.4
RAIL FREIGHT (7/22) billions of ton-miles	18.2 #	17.0	-4.7

Sources: American Iron & Steel Inst., Ward's Automotive Reports, Edison Electric Inst., American Petroleum Inst., Energy Dept., American Paper Inst., WWPA¹, SFPA², Association of American Railroads.

FOREIGN EXCHANGE

	Latest week	Week ago	Year ago
JAPANESE YEN (8/2)	136	141	133
GERMAN MARK (8/2)	1.85	1.87	1.89
BRITISH POUND (8/2)	1.66	1.65	1.71
FRENCH FRANC (8/2)	6.27	6.35	6.36
CANADIAN DOLLAR (8/2)	1.18	1.19	1.21
SWISS FRANC (8/2)	1.59	1.61	1.57
MEXICAN PESO (8/2) ³	2,536	2,529	2,300

Sources: Major New York banks. Currencies expressed in units per U. S. dollar, except for British pound expressed in dollars.

PRICES

	Latest week	Week ago	% Change year ago
GOLD (8/2) \$/troy oz.	369.750	372.300	-14.8
STEEL SCRAP (8/1) # 1 heavy, \$/ton	109.00	110.50	-11.0
FOODSTUFFS (7/31) index, 1967 = 100	219.5	222.1	-8.0
COPPER (7/29) ¢/lb.	119.1	114.6	16.0
ALUMINUM (7/29) ¢/lb.	81.3	79.0	-35.5
WHEAT (7/29) # 2 hard \$/bu.	4.20	4.27	16.3
COTTON (7/29) strict low middling 1-1/16 in., ¢/lb.	68.51	68.02	20.5

Sources: London Wed. final setting, Chicago mkt., Commodity Research Bureau, Metals Week, Kansas City mkt., Memphis mkt.

Raw data in the production indicators are seasonally adjusted in computing the BW index (chart); other components (estimated and not listed) include machinery and defense equipment. 1 = Western Wood Products Assn. 2 = Southern Forest Products Assn. 3 = Free market value NA = Not available r = revised NM = Not meaningful

LEADING INDICATORS

	Latest week	Week ago	% Change year ago
STOCK PRICES (7/28) S&P 500	337.95	333.79	2.7
CORPORATE BOND YIELD, Aaa (7/28)	8.91%	8.93%	-
INDUSTRIAL MATERIALS PRICES (7/28)	102.9	104.9	-
BUSINESS FAILURES (7/21)	237	260	-
REAL ESTATE LOANS (7/19) billions	\$332.8	\$331.7r	0.3
MONEY SUPPLY, M2 (7/17) billions	\$3,114.4	\$3,111.6r	0.1
INITIAL CLAIMS, UNEMPLOYMENT (7/15) thous.	354	335	5.7

Sources: Standard & Poor's, Moody's, Journal of Commerce (index: 1980 = 100), Dun & Bradstreet (failures of large companies), Federal Reserve Board, Labor Dept. CIBCR seasonally adjusts data on business failures and real estate loans.

MONTHLY ECONOMIC INDICATORS

	Latest month	Month ago	% Change year ago
PERSONAL INCOME (June) annual rate, billions	\$4,407.3	\$4,394.7	0.3
MANUFACTURERS' INVENTORIES (June) billions	\$366.2	\$365.1	0.3
MANUFACTURING SHIPMENTS (June) billions	\$231.9	\$233.1	-0.5
CONSTR. SPENDING (June) annual rate, billions	\$414.7	\$418.2r	-0.8

Sources: Commerce Dept., Census Bureau

MONETARY INDICATORS

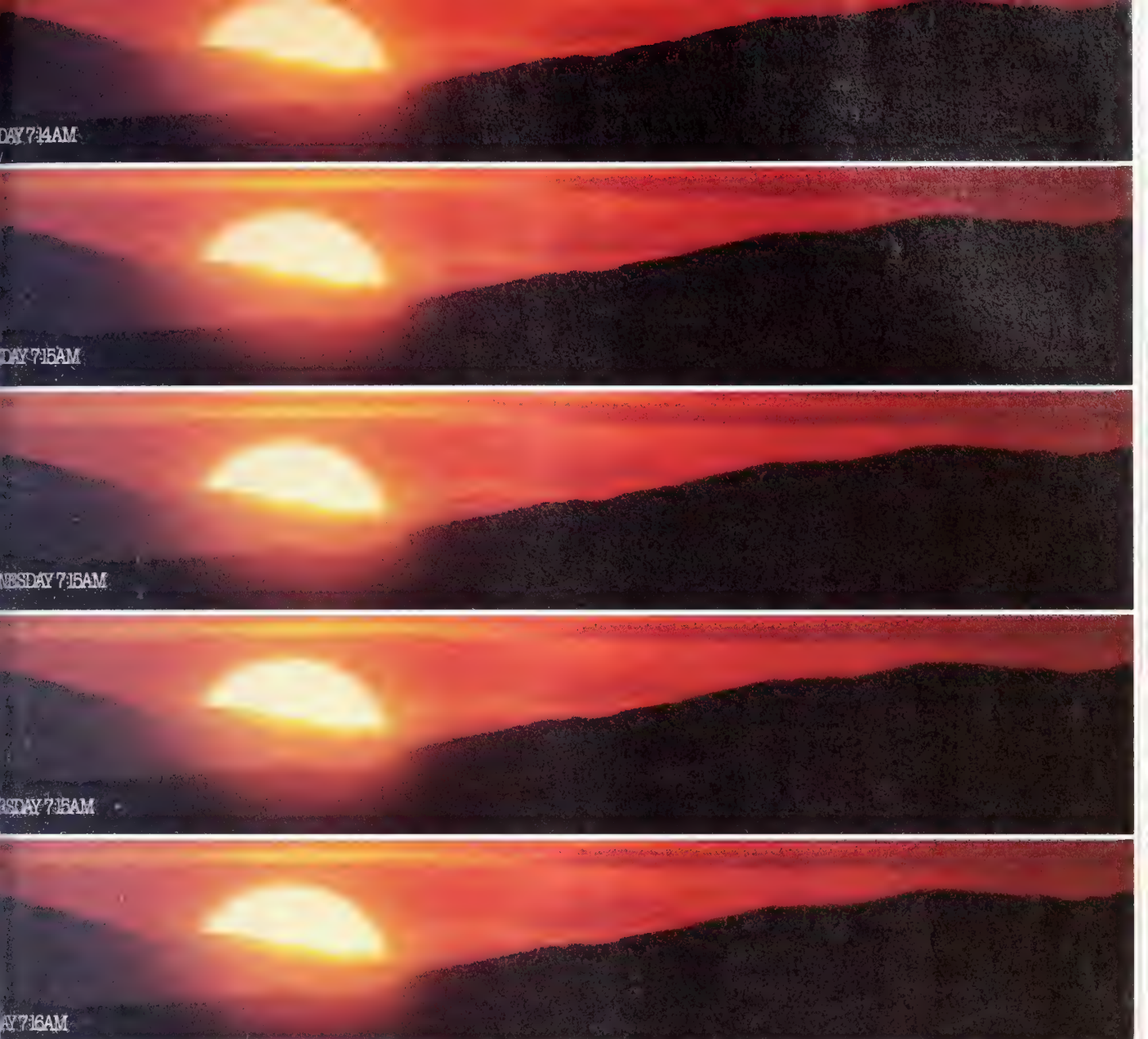
	Latest week	Week ago	% Change year ago
MONEY SUPPLY, M1 (7/17)	\$777.5	\$779.1r	-0.2
BANKS' BUSINESS LOANS (7/19)	315.7	315.3r	0.1
FREE RESERVES (7/26)	324	421r	-22.3
NONFINANCIAL COMMERCIAL PAPER (7/17)	125.7	126.9	-0.9

Sources: Federal Reserve Board (in billions, except for free reserves, which are expressed in a two-week period in millions).

MONEY MARKET RATES

	Latest week	Week ago	% Change year ago
FEDERAL FUNDS (8/1)	8.95%	9.14%	7.8
PRIME (8/2)	10.50	10.5-11.0	9.5
COMMERCIAL PAPER 3-MONTH (8/2)	8.24	8.60	8.0
CERTIFICATES OF DEPOSIT 3-MONTH (8/2)	8.30	8.80	8.0
EURODOLLAR 3-MONTH (7/26)	8.84	8.81	8.5

Sources: Federal Reserve Board, First Boston



DAY 7:44AM

DAY 7:15AM

WEDNESDAY 7:15AM

THURSDAY 7:15AM

DAY 7:15AM

PAST PERFORMANCE IS NO GUARANTEE OF FUTURE SUCCESS. BUT IT'S SOMETHING TO CONSIDER.

Mutual funds haven't always been your everyday investment. Forty years ago there weren't many kinds of funds.

Just some common stock funds and the bond funds. But Jack Dreyfus thought there were poised for growth.

In 1951 he began managing one of the first funds to actively seek growth of capital for its shareholders.

It's a hunch that paid off. Not just for the shareholders of The Dreyfus Fund, but for the shareholders of the many growth funds that followed in the 1950s and 1960s. In the 1970s, when rising interest rates were

stranding savers in low-paying FDIC insured passbook accounts, we developed Dreyfus Liquid Assets.

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Today everyone talks about the need to allocate

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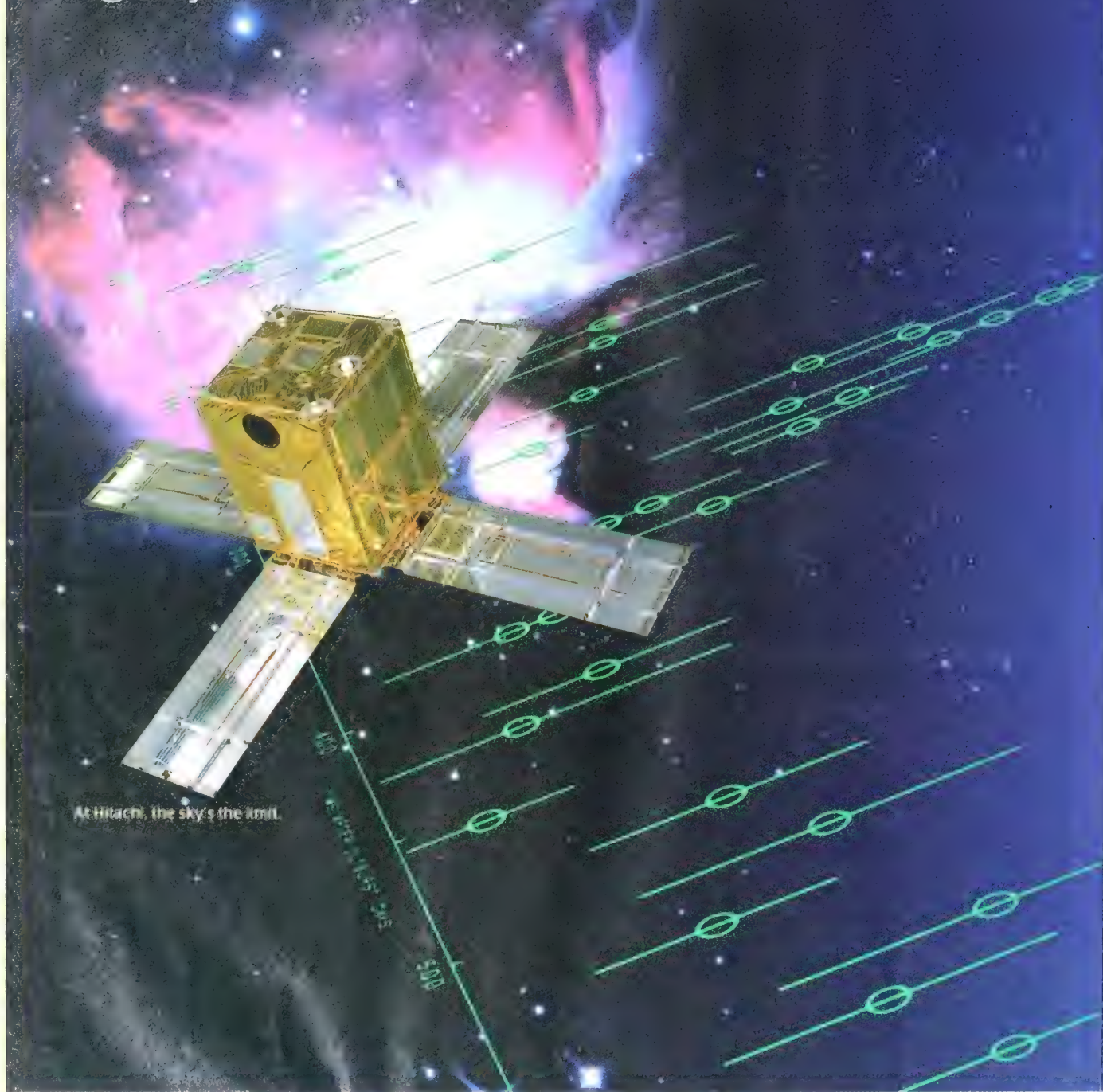
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But one thing is certain: our past. And that's one way to evaluate the future. Obtain a prospectus from your securities dealer or call 1-800-648-9048.

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At the heart of Ginga — Hitachi's magnetic

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Of course, some stars are much closer to home. And Hitachi shines here, too. Our dynamic

How to record a star
right at home.



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video cameras are responsible for revolutionizing the family photo album. While delivering image quality that's out of this world.

of this is explained by the fact we're a billion company.* We're involved in science. Electronics. Communications. Transportation. And more. Most everything, in fact.

It goes to show that Hitachi is as adept at creating products that are light-years apart as we are at creating technologies that are light-years ahead.

*US\$48,496 million; net sales for the year ending March 31, 1989. US\$1=¥132



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ABORTION: WHICH IS THE BACKWARD STEP?

BUSINESS WEEK has always impressed me as an excellent example of informative, concise, and professional business reporting. I currently subscribe to several general newsmagazines for the purpose of obtaining information relating to such topics as the Supreme Court's decision in *Webster vs. Reproductive Health Services*. Your commentary "If pro-choice is mainstream, now's the time to prove it" (Top of the News, July 17), which is completely devoid of any reference to business, is beneath the dignity and purpose of your publication.

David L. Smith
San Antonio

For those who hold that one's selfish interest is of more importance than the protection of the unborn, the same argument can be used to deal with the old, the terminally ill, the mentally retarded, and so on ("Marching backward on abortion," Editorials, July 17). Once such compromise is established, who is to say where the boundaries should be set? Whose opinion and whose rights are more valuable—yours or mine? Are there no absolutes? I say "yes," and the sanctity of human life is one of them. A narrow-minded view, yes, but for some issues, the stakes are too high to be otherwise. Abortion is such an issue.

Calvin T. Moore
Streator, Ill.

I applaud your editorial on the abortion issue. I did not expect to see the issue covered by your magazine in such a thoughtful way. It was a comforting moment in what is beginning to feel like the year in which the world stepped "backward."

Jean Lenihan
Redmond, Wash.

EMPLOYEE INVOLVEMENT: A LOT GOES A LONG WAY

As project director for the 1987 General Accounting Office employee-involvement (EI) practices study that was cited in "The payoff from teamwork"

(Cover Story, July 10), I must commend you for bringing an issue of vital importance to the forefront. You correctly state that GAO's study found over 70% of the companies surveyed had some type of EI practice implemented. Most of these practices are parallel systems which require little or no integration with a company's core systems. More important, a portion of the study [available to BUSINESS WEEK] found that EI practices requiring integration change—work teams and job redesign—were carried out by about only 5% of companies surveyed.

It must be clearly understood by all managers that the EI practices most frequently implemented hold the most promise for performance improvement. Parallel EI systems—quality circles, suggestion systems, and survey feedback—do little to foster sustained performance improvements. Only when managers understand the differences between low- and high-involvement systems will U.S. business begin the long road back to leadership position in the world.

Michael Dulworth,
Insync Co.
Washington

Are U.S. businesses serious about achieving teamwork? Some are, but not enough.

Teamwork begins, and eventually pays off, with managers who "walk the talk, and walk the talk." That is, managers must spend time with their employees; talk with and listen to them; and then—the toughest step for most—consistently practice the quality and service they preach. Such managers are the leaders America needs. The payoff: responsive, creative, and productive organizations with dominant market share.

Arne Skaalure, President
Service Partnership
Hous

WHO'S MISSING FROM THE GLOBAL 1000—AND WHY

I was surprised that your report did not include an analysis of American companies that dropped off the list from last year ("Who's the biggest of them all," July 17). Of the 41 corporations on last

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By Charles N. Coppi

**Senior Vice President, Technology
Gulfstream Aerospace Corporation**

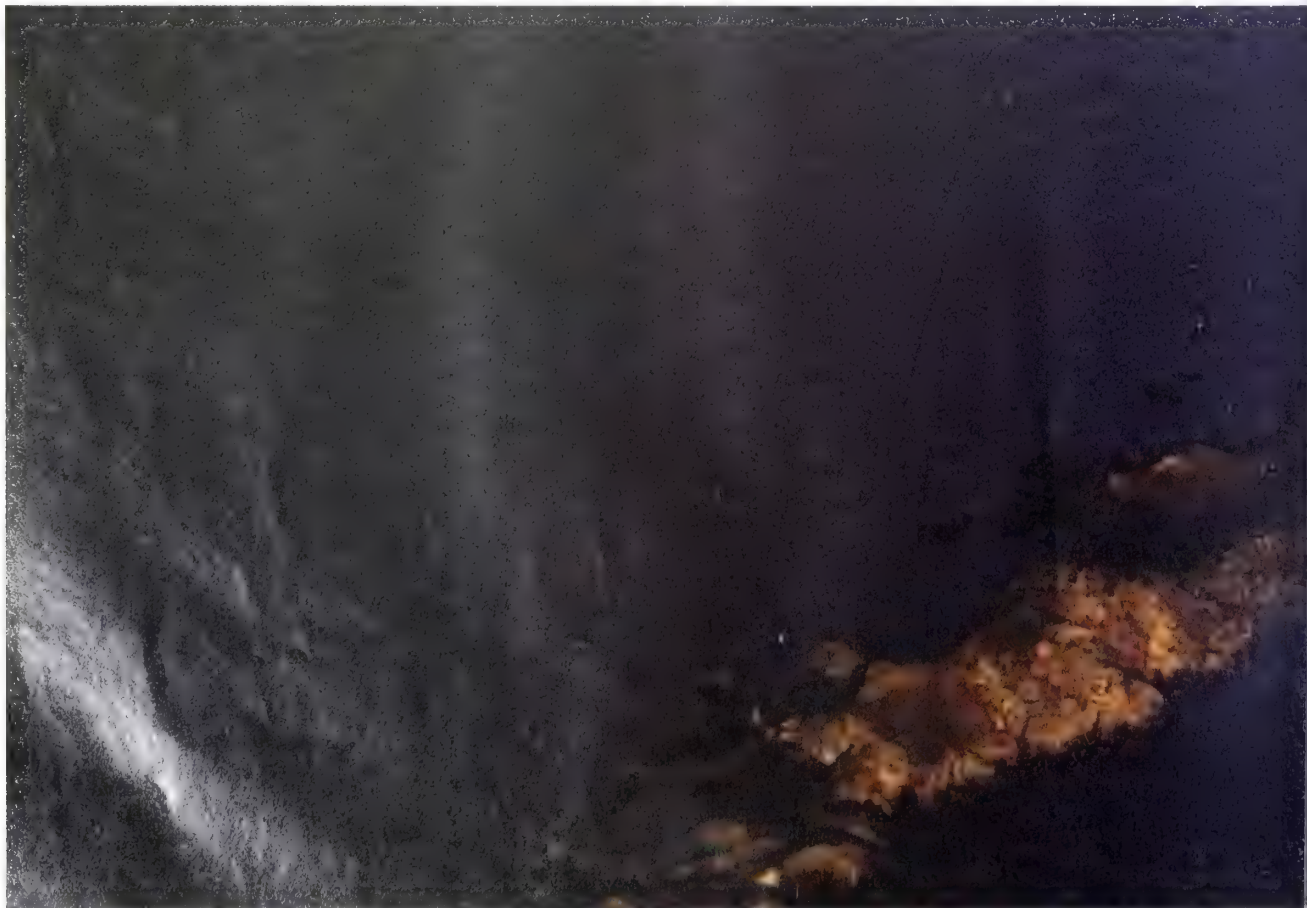
lesser aircraft, and perhaps even more.

Its size alone is a plus in helping achieve optimum utilization. (In our experience, people seldom pass up the opportunity to ride in a Gulfstream. And remember, the Gulfstream IV can take more passengers more places faster than any other business aircraft.)

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An acknowledged authority on the design and engineering of business aircraft, Charles Coppi has helped shape many of the significant technological advances found in four generations of Gulfstream executive aircraft.



Despite its size, the Gulfstream IV use airports you'd expect to be limited to much smaller jets. It is also a good neighbor. There aren't any airports more noise-sensitive than Washington's National Airport; the FAA says the Gulfstream IV, with its Rolls-Royce Tay engines, is quiet enough to come and go there anytime, day or night. (What that also says is you can be on going almost anywhere you want to go, when you want to go – which is the fundamental reason to operate any business jet.) In short, the Gulfstream IV has an uncommon versatility that makes it commonly productive. We can show you why and how this happens on an actual business trip you and your key executives have to take somewhere at home or abroad. If you need to go 5,000 miles non-stop, fine.



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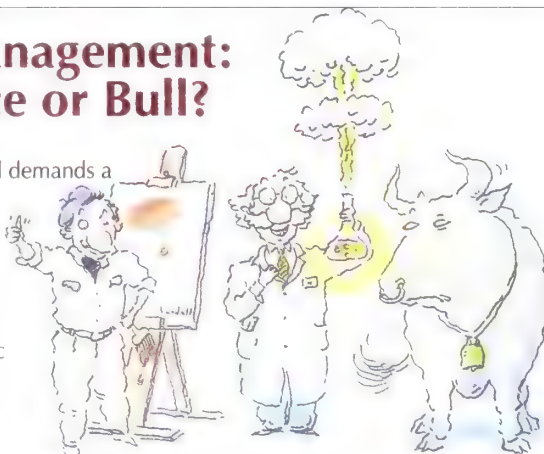
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Readers Report

er on the list, five left via LBOs, were acquired by other companies three of which are foreign—and 31 possess a market value now insufficient for inclusion. The 1988 total market value of these 41 firms—over \$89 billion—passes the 1989 market capitalization of Global 1000 firms in many countries including Switzerland and Italy.

F. Christian Zinn
Lundy-Fetterman School of Business
Campbell University
Buies Creek, NC

Your story on the Global 1000 raises one question unanswered: Why do Japanese companies so conspicuously disappear from the top 15 companies in terms of profits?

David M. Ma
Upton, NY

WHEN ESOP 'PARTICIPATION' IS A SNARE

Regarding "Teams that score big on productivity" (Editorials, July 1989), you state: "The substantial tax advantages of ESOPs should be contingent on worker participation." I happen to agree with you. But it is equally important not to mislead working people into believing they are "participating" rather than being exploited when they are induced to perform like owners without really becoming owners, which they can do when ESOP financing is used. Otherwise their participation is a delusion.

Less than 4% of the \$750 billion in U.S. capital transactions in 1988 were ESOP-financed. The other 96% intensify the concentration of ownership of residential capital in the top 5% of wealth holders. Capital owners produce 90% of the nation's goods and services as measured in free-market terms. Acquiring and employing capital is the normal way for working people to raise their earning power.

True participation by working people requires reciprocal participation by owners and managers. Why should workers do all the participating?

Louis O. Kelso, President
Kelso Institute for the Study of Economic Systems
San Francisco, CA

COMPUTERS ALONE CAN'T SOLVE EDUCATION'S ILLS

As the founder of a company that develops and sells computer-based remedial learning systems, I agree with your assessment that technology in the classroom to date has achieved less than stellar results ("Computers in schools: loser? Or a lost opportunity?" Social



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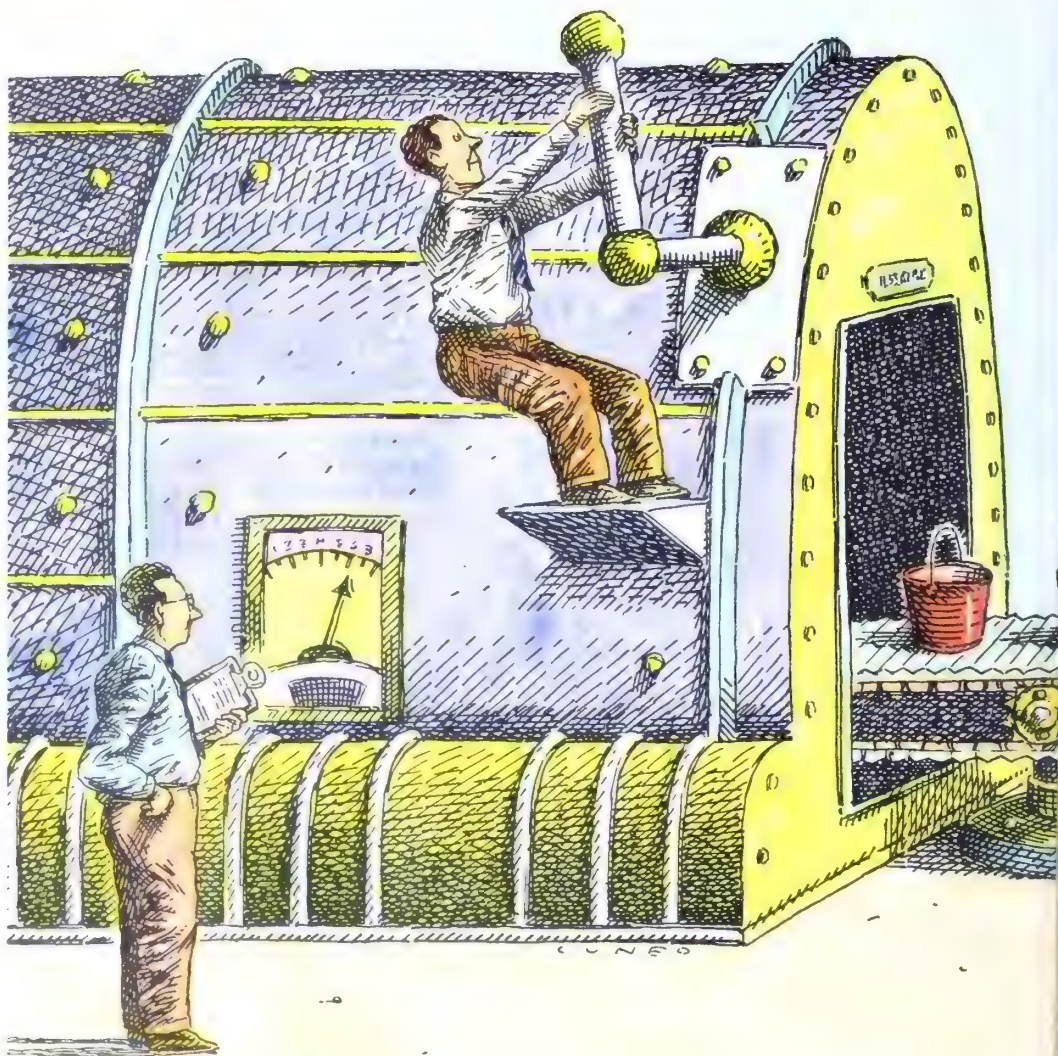


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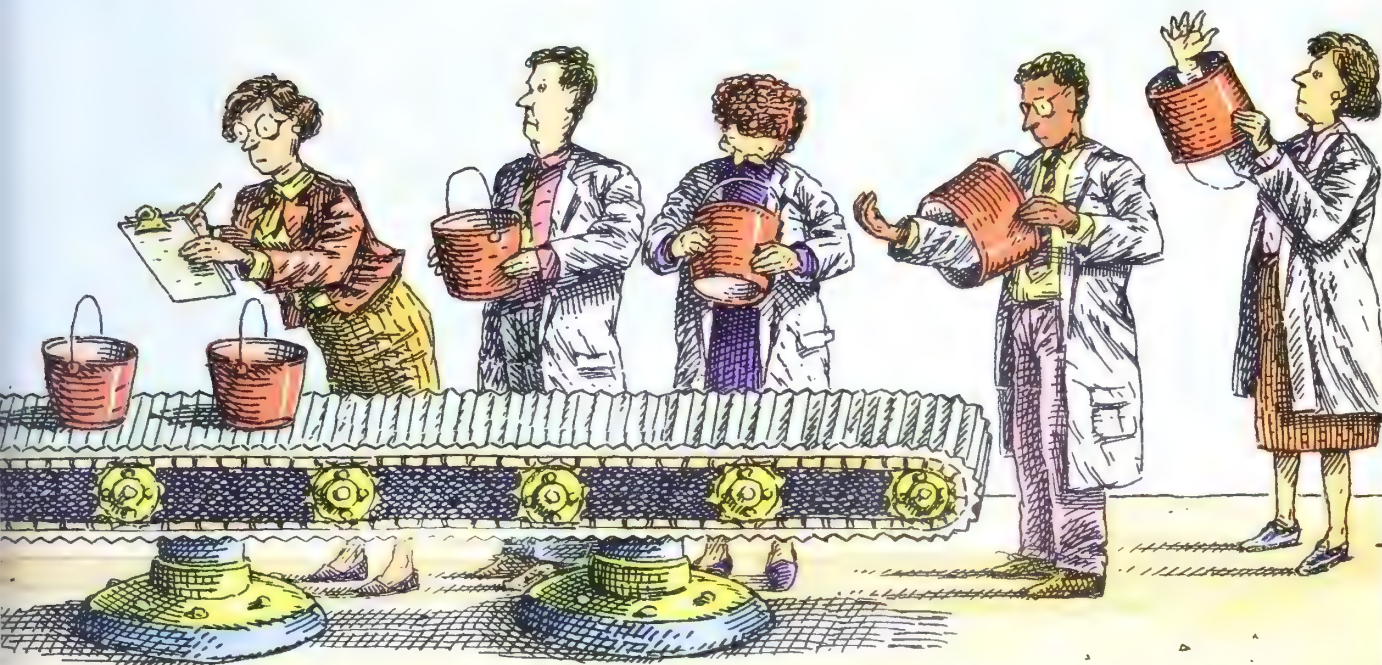
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CORRECTIONS & CLARIFICATIONS

the BUSINESS WEEK Global 1000 list (July 17), the 12th-ranked U.S. company should have been Coca-Cola, not Coca-Cola Enterprises. And No. 109 should have been Baxter International, not Baxter Travenol Laboratories. The profits for Barclay's Bank (the 12th-ranked British company) were listed as \$39 million. The correct figure is \$1.39 billion.

In the story "Mission Oak: A solid investment" (Personal Business, July 31), it was incorrectly stated that the Jordan-Volpe Gallery at 958 Madison Ave., New York City carried Mission furniture. The gallery no longer sells the furniture; it now specializes in 19th- and 20th-century American and European paintings. Also, the correct phone number is 212 570-9500.

In their drive to embrace technology that promises state-of-the-art efficiency, it seems that many schools have acquired computers in recent years without adequately integrating them into the day-to-day dynamics that occur between teacher and student.

Nonetheless, your suggestion that educators who welcome computers do so with misguided boosterism is unfair and misleading, especially in the area of integrated learning systems.

While it is true that much of the teaching software now in place is highly limited, the more sophisticated systems are extremely interactive and flexible. There is courseware available right now that has a demonstrated capacity to teach cognitive and analytic skills in a systematic fashion. Students otherwise considered educationally "at risk" in a small classroom environment, however, through using computers, become proficient at such higher-order skills as strategic reasoning, quantitative estimation, and even flow-chart analysis.

Without question, computers will play a major role in our educational system in coming decades. Alone, computers cannot produce an instructional utopia. The real objective, after all, is not computer literacy, but a literate society in which computers are but a part.

Charles R. Walther
Founder & Senior Vice-President
New Century Education Corp.
Piscataway, N. J.

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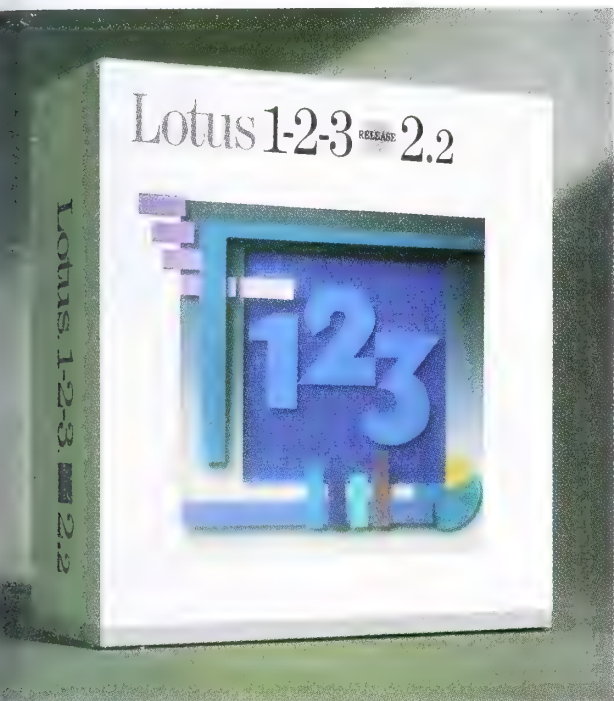


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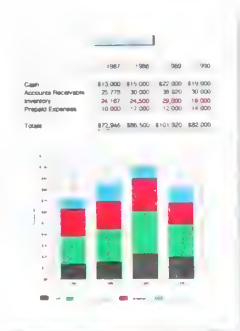
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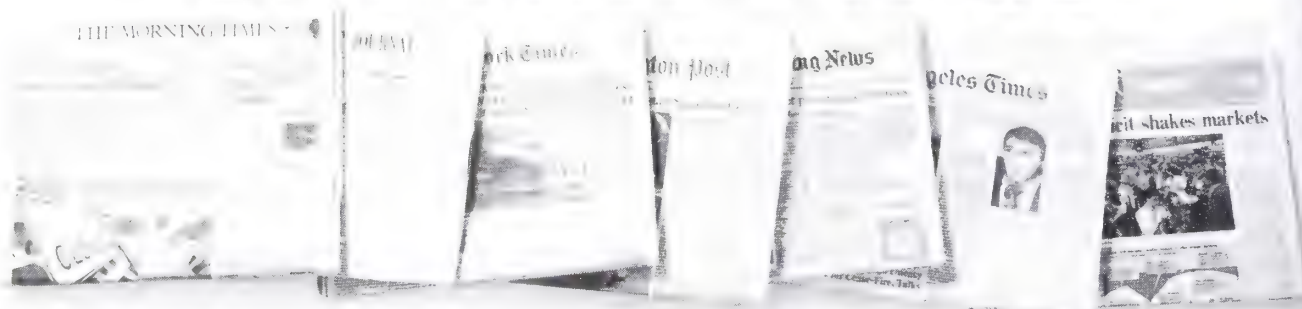
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Special Business Features	6:50	7:50		
CEO Close-Ups		7:15		8:15
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SUDDEN DEATH: THE RISE & FALL OF E. F. HUTTON

Mark Stevens
American Library • 298pp • \$19.95

THE FALL OF THE HOUSE OF HUTTON

By Donna Sammons Carpenter and John Feloni
Henry Holt & Co. • 322pp • \$19.95

THE TRAGIC FLAW IN HUTTON'S PERSONALITY CULT

In many ways, E. F. Hutton & Co. was the last of the grand old Wall Street firms, a survivor of the days of clubby partnerships with casual, seat-of-the-pants management. When broker-rate competition and other pressures began forcing modern business disciplines on the Street in the late 1960s, hundreds of firms folded. Others, such as Bache, Dean Witter, and Shearman & Sterling, became appendages of large financial-services conglomerates. A few—namely Merrill Lynch, Morgan Stanley, Goldman Sachs, and Salomon Brothers—remained independent by overhauling their managerial and operational systems. Hutton remained an anomaly. It came roaring into the 1980s looking like an antique from earlier decades, a Model T miraculously going 65 mph. Its miracle workers shared the driver's

seat. CEO Robert M. Fomon was in overall charge. Tough, imperious, arrogant, and reclusive, he was a brilliant visionary, a master politician, and a decisive leader. George L. Ball wielded near-absolute control over the retail-branch system. The convivial Ball was a super-motivator, able to stroke brokers into feats of performance unmatched on the Street. Hutton had no organizational chart, no strategic plan, no system of delegation, and no backup managerial cadre other than sycophants. There was no apparent need. Fomon and Ball seemed able to do it all, ruling by instinct and sheer force of personality.

You didn't need a degree in rocket science to realize that Hutton would have to return to earth sooner or later. Unless new leadership suddenly materialized, Hutton's longevity depended en-

tirely on Fomon and Ball. While *Sudden Death* and *The Fall of the House of Hutton* are useful and readable chronicles of Hutton's collapse, they fail to place it in the broader context of the Street's transformation over the past two decades. Nor do they do justice to the tragic dimensions of Hutton's sad, slow stagger into oblivion, which culminated in 1987 with an ignominious auction whose high bidder was Shearson.

Fall was co-authored by John Feloni, a former Hutton broker, but *Sudden Death*, by financial writer Mark Stevens, is the superior account, richer in anecdote and personality development. Both, though, are narrowly focused and written as if they wanted to beat each other into print. Neither adds much news to contemporaneous press accounts.

The story of Hutton's demise is both simple and ironic: Having more or less created the firm, Robert Fomon ended up, in effect, destroying it. The beginning of the end was George Ball's abrupt departure in 1982 to run Prudential-Bache Securities Inc. *Sudden Death* persuasively shows that Fomon's incessant public ridicule drove Ball to leave. Stevens says Fomon resented that Ball, by raising the productivity of the sales



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force, had been so instrumental to Hutton's success. Unfortunately, Ball hadn't delegated any more effectively than had Fomon, and Fomon never found a competent replacement for him. Without Ball, the retail system gradually unraveled.

So did Fomon. He became withdrawn, moody, and erratic. According to both books, his distractions included bouts of womanizing and drinking, a debilitating compound leg fracture, and an obsession with the construction of Hutton's grandiose new midtown Manhattan headquarters, whose \$100 million price tag wreaked havoc on Hutton's weakened balance sheet. The firm's management fell into disarray. In 1985, a widely publicized check-kiting scandal culminated in Hutton's guilty plea to 2,000 counts of mail and wire fraud. *Fall* provides a fuller account of the episode than *Sudden Death*, but neither book offers much fresh reporting on the possible culpabil-



CEO FOMON ULTIMATELY DESTROYED THE FIRM HE HELPED TO CREATE

ity of Hutton's top managers, particularly George Ball. Although Ball and Fomon emerged with their reputations officially unblemished, the scandal badly damaged Hutton's sagging morale.

Under pressure to bring in new leadership, Fomon recruited Robert P. Rit-

tereiser from Merrill Lynch & Co. as president in January 1985. Rittreiser had acquired a good reputation as Merrill's chief administrative officer, but he had little actual management experience. He proved to be a weak and indecisive manager. Fomon, who was stripped of the CEO title from Hutton's board until 1986, worked to undermine Rittreiser, just as he had done with Ball. At one point he even tried secretly to sabotage the firm's sale. Since Hutton was all but out of control, with numerous transactions maneuvering for power and the balance sheet hemorrhaging scarce cash, *Fall* provides a comprehensive and inside view

of events during this tumultuous period, including details of meetings of the board which remained complaisant until it was too late.

To try to arrest Hutton's decline, Rittreiser brought in a bevy of richly compensated outsiders, whose perform-



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ined new levels of ineptitude and calculation. Typical was *The Hutton Neighborhood Coloring Book*, which sent around to employees complete a box of crayons. The idea was to ate them, in a humorous way, about firm's problems. One illustration, wing a small house wedged between mansions, was captioned: "We're no er the nicest house on the block. re not even close. In fact, we're in trouble." Another page, showing a ing van in front of the house, read: "we don't fix our problems *soon*, eone could even take away our e. (Color this gloomy.)" Rival firms istributed copies widely.

ne October, 1987, market crash ad- istered the coup de grace to Hutton. at was simply the equivalent of oving life-support systems from a ent who was already brain-dead. In ember, after board member Peter V. erroth had unofficially taken control n the fading Ritterreiser, Hutton dis- eared into the great maw of Shear- By that time, the firm's demise had n so widely anticipated that when . Hutton uttered its last words, no- y was listening anymore.

BY CHRIS WELLES
or Writer Welles follows Wall Street stays out of the stock market.

BOOK BRIEFS

THE BROKEN CORD

By Michael Dorris
Harper & Row • 300pp • \$18.95

In 1971, Michael Dorris, a 26-year-old, single, mixed-blood Native American working toward his PhD in anthropology from Yale University, adopted Adam, a three-year-old boy from the Sioux reservation in South Dakota. Adam's mother had died of alcohol poisoning, and he was diagnosed as mentally retarded. But Dorris, in whose family single parenthood had been the "practical norm," was undaunted by the prospect of raising the disabled boy alone. "I believe in the positive impact of the environment," he insisted to the social worker who arranged the adoption. "With me, he'll catch up."

But he never does. Dorris didn't know until after the adoption that Adam had Fetal Alcohol Syndrome, and *The Broken Cord* is an absorbing and beautifully written account of his efforts to cope with an FAS child. Alcoholism is rampant on Indian reservations across the country—Adam's mother drank heavily throughout her pregnancy. FAS children are born with delirium tremens, are fre-

quently retarded, and painfully thin. Adam was no exception.

The damage to Adam in the womb is irreparable. He has memory lapses, hyperactivity, and an IQ of 65. He cannot concentrate or grasp cause-and-effect relationships. Now in his early 20s, Adam lives in a group home and works part-time as a dishwasher. He cannot handle money, needs constant supervision, and must be told to dress, eat, and bathe.

Dorris, now a professor at Dartmouth College, adopted two more Native American children before his marriage in 1981 to novelist Louise Erdrich, with whom he had three more children. His experience with Adam led him to no general conclusions about solving the plight of FAS children. Most end up on welfare or in jail. Many become alcoholics and produce more FAS children. Nor does Dorris know how to curb the rising alcoholism rate on Indian reservations.

But *The Broken Cord* ends with, "The Adam Dorris Story," a chapter written by Adam that took him 6½ years to complete. Its many misspellings and inaccurate punctuation, and Adam's descriptions of goals that were thwarted and feelings of love that were never explored, make a superb argument for abstinence during pregnancy.

BY LAURA ZINN

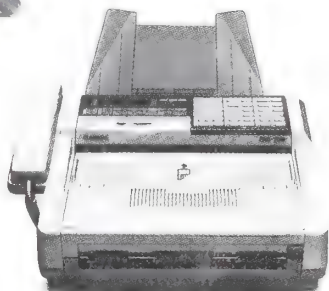


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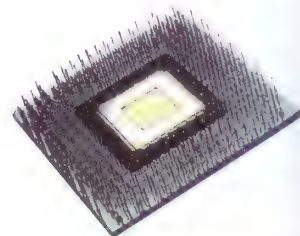
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Building On Beliefs



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THE TRICKLE-UP EFFECT OF A CAPITAL-GAINS TAX CUT

BY ROBERT KUTTNER



Studies still show it would flagrantly favor the rich—hardly a 'people's capitalism.'

At best, such a cut might inspire a backlash—and with that, a progressive income tax

Here we go again, taking an improbable walk on the supply side. The House will soon consider legislation reducing the effective tax rate on capital gains, which are currently treated as ordinary income. This sort of tax cut ought to be unthinkable at a time when Congress is wrestling with endless deficits. But the proposal is being marketed as the latest form of supply-side alchemy—which we have to thank for the deficit in the first place.

According to *The Wall Street Journal* editorial page, fully \$35.3 billion worth of capital-gains income in 1985, or 20.8% of the total, went to people with ordinary income of less than \$10,000 a year. That was almost as much as the \$41.9 billion that went to people with ordinary income of more than \$200,000. This picture of a people's capitalism makes a capital-gains cut sound downright populist. But the disingenuous phrase here is "ordinary income," which leaves out capital-gains income. If you sort people with capital gains according to their total income, the top 1% of taxpayers have about 57% of all capital gains. So this tax cut would be flagrantly tilted to the already-rich.

Laying aside the claims of riches for all, which have been widely discredited, the only reason Congress is taking this approach seriously is the seductive prospect that capital-gains tax cuts might increase revenues, at least in the short run. Nothing bewitches a politician more than the prospect of bestowing a tax cut and increasing spending in the same stroke, which the Bush proposal purports to do.

SIDE EFFECT. A temporary capital-gains cut might produce a one-time revenue gain, as investors with paper gains take the opportunity to unload long-held stocks. But the Congressional Budget Office projects that after the first year, lower rates would reduce net revenues by some \$5 billion a year. Once rates were cut, Congress would find it politically hard to raise them again—especially with a chorus of supply siders pointing to misleading statistics.

Moreover, a preferential tax rate on capital gains has an unfortunate side effect. It induces investors to convert ordinary income to capital gains. From 1977—the year before the first capital-gains tax cut—to 1985, reported tax-shelter income soared from \$15 billion to \$86 billion a year. An artificial jump in capital gains does increase capital-gains tax receipts—but it reduces total tax receipts, because so many investors are sheltering more of their overall income from the tax collector.

History shows that changes in capital-gains rates do not significantly affect

investor decisions to cash in stocks or other assets. What influences investment behavior is the overall state of the economy. When the economy is booming, people take capital gains. When the economy is sluggish, they don't.

In the 1982 recession, despite the 1981 tax cut, capital-gains realizations fell, as they did in previous recessions. A good deal of supply-side literature gloomily predicted that the increase in maximum capital-gains rates from 20% to 33%, in the 1986 tax-reform act, would depress capital-gains realizations and hence would depress tax receipts. Harvard University economist Lawrence Lindsey, an adviser to President Bush, projected that the 1986 law would cut capital-gains realizations in 1987 to \$73.6 billion, costing the government more money than the rate hike raised. As it turned out, actual realizations in 1987 were about \$140 billion. Intriguingly, despite the rise in capital-gains taxes after 1986, tax revenues have been running well ahead of projections, which suggests that a higher capital-gains rate hasn't depressed investor willingness to trade stocks.

FEWER ESCALATORS. One popular alternative would index the capital-gains rate for inflation. A stock bought for \$100 and sold for \$200 during a period when prices rose 50% would produce tax income of only \$50—the gain adjusted for inflation. This sounds like an improvement, but it's not. Unless you believe in the supply-side fairy, it would massively reduce revenue, which would have to be made up from other sources. Moreover, the economy has finally gotten rid of many of the cost-of-living escalators that helped to fuel inflation in the 1970s. Do we really want to re-inflate America, starting at the top? If investors are to be protected against inflation, why not protect pensioners and minimum-wage workers, too?

If a capital-gains cut is dubious economics, it could also be self-defeating politics. The Administration faces a bloody budget battle next year, and has now managed to rouse latent populist instincts in otherwise docile Democrats. The entire logic of the 1986 cut was based on a uniform maximum tax rate for all classes of income. If capital gains can be exempted from the deal, producing windfall benefits for the wealthiest Americans, the Democrats could well conclude that it's time to restore a progressive income tax. With Republicans backing away from the 1986 tax-reform bargain and a \$60 billion deficit looming between the Gramm-Rudman target and the projected 1991 deficit, a higher top rate on ordinary income starts looking very attractive indeed.

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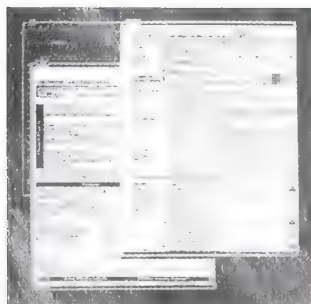
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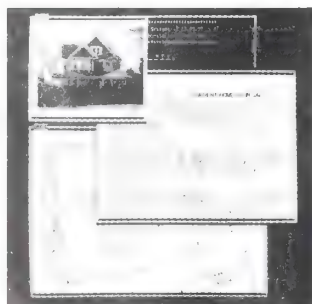
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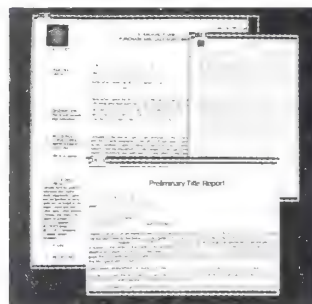
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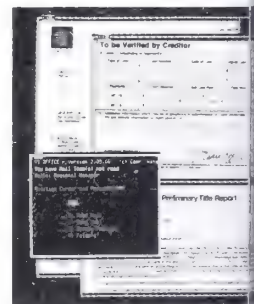
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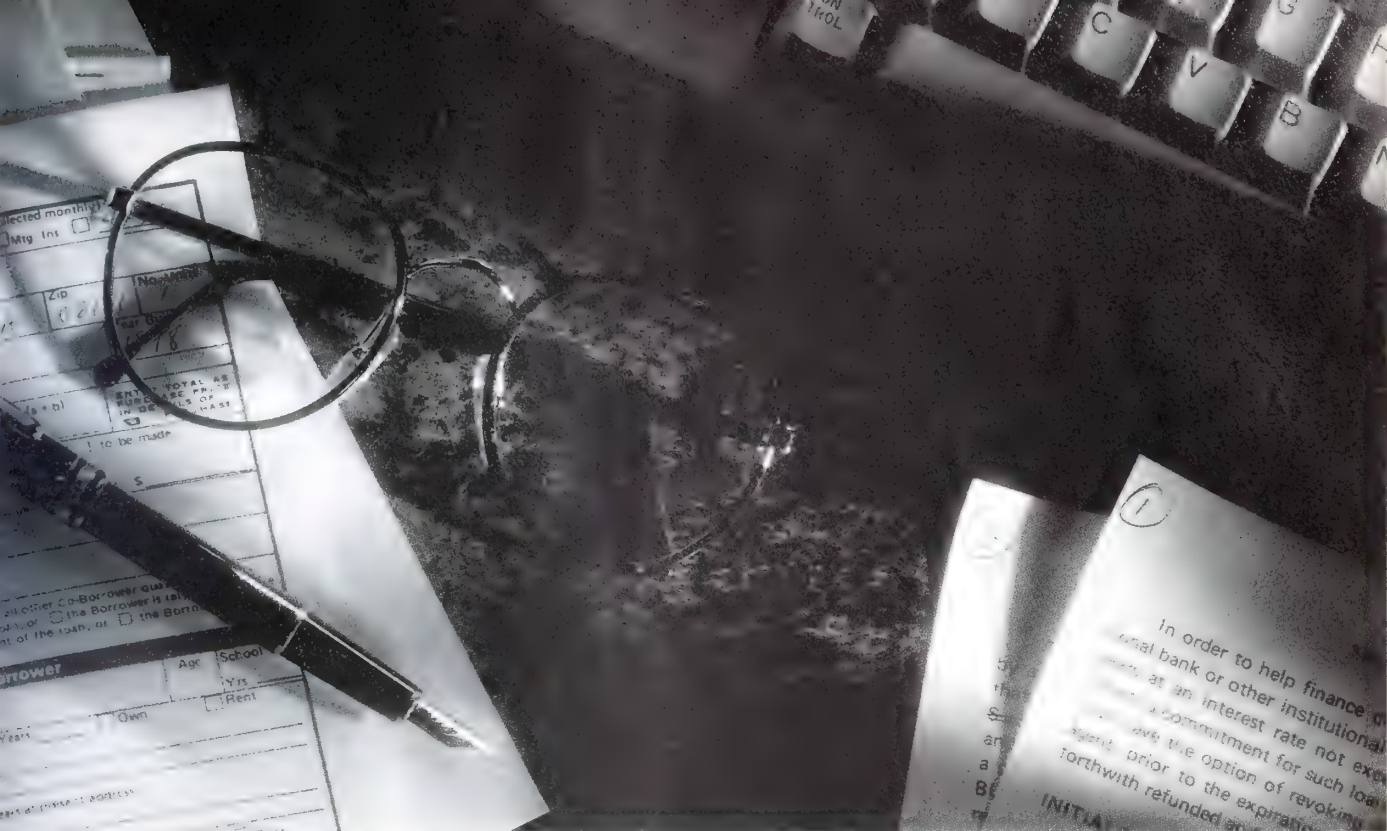
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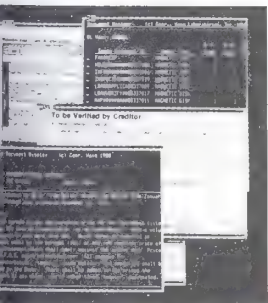
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BY KAREN PENNAR

JAPANESE THRIFT? THE STEREOTYPE SUFFERS A SETBACK

The Japanese outcompete the U.S. They outpace us on the world growth charts. And everyone knows that they outsave us.

But perhaps not by the margin people think. Indeed, recent work done by economist Fumio Hayashi of the University of Pennsylvania suggests that in Japan, net national savings—both public and private—may be one-third to one-half the level reported. In some years the U.S. and Japanese savings rates have converged, although more recently even the adjusted numbers show a gap. Still, Hayashi's work suggests that the differences in thrift aren't insurmountable.

Hayashi argues that it is highly misleading to compare the reported savings rates of both countries, because the national income statistics are not directly

comparable. The two most important differences, the economist says, involve how capital is depreciated and how government expenditures are categorized. After adjusting for these differences, Japan's net national product—gross national product after depreciation—is lower than reported, and so too is net national savings.

SERVICE EXPORTS ARE HELPING TO CLOSE THE TRADE GAP—A LITTLE

With its announcement that real gross national product rose a modest 1.7% in the second quarter, the Commerce Dept. confirmed that the pace of economic activity has softened. But buried in the GNP report was other welcome news: In recent years, the U.S. has done a better job of selling services to foreign buyers than previously thought. Indeed, service exports, it turns out, were about \$20 billion greater in 1988 than Commerce had reported earlier. In a \$5 trillion economy, that's not going to make a huge difference. But as yet another small step toward narrowing the U.S. trade deficit, it's important.

Helping to buoy service exports were some items that Commerce has only begun to measure, and others that are being measured more accurately. Trade in accounting and advertising services, for instance, is now counted. Similarly, foreign students' expenditures in the U.S. and U.S. students' spending overseas are being tallied. Travel receipts and payments are measured better. These items yielded a net gain for the overall services trade balance of more than \$10 billion. Another \$9 billion or so was added thanks to a revision in the balance of "factor income." That's the difference between profits U.S. affiliates overseas send home and profits foreign affiliates in the U.S. ship to their parents.

Will service exports continue growing, or do the revisions merely represent a onetime adjustment? So far, the evidence is inconclusive: Including factor income, the services balance was running at a \$48.8 billion annual rate in the second quarter, a shade lower than in the previous couple of quarters.

SPECIALIZED PRODUCTION: VIVE LES DIFFERENCES

Recently, trade theorists have worried that the concept of comparative advantage—the principle by which nations specialize in doing what they

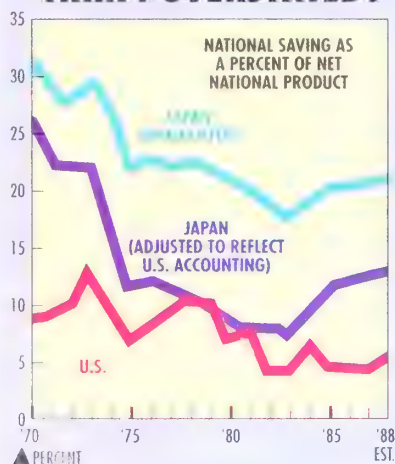
know best and selling what they make most efficiently—has been rendered obsolete in a world riddled with unscrupulous traders. But these theorists should take note: Comparative advantage is a reality, and well. That's the message of a recent paper authored by David Dollar of the World Bank and Edward N. Wolff of New York University. Sifting through 20 years' worth of data, the two found that different countries are specializing in different industries, with only two exceptions. Of the top industrial nations, only Belgium and the Netherlands have developed the same export specialties.

This trend toward specialization is striking, because it's happening at a time when many differences between industrial economies are disappearing. The gap between low-productivity and high-productivity industrial countries, for instance, has been shrinking. But the differences in trade patterns are becoming sharper, as countries specialize in areas where their productivity is advancing most quickly. In particular, Japan's exports have surged in basic metals and electrical goods, sectors which have scored big productivity gains relative to the U.S. The U.S., too, has been emphasizing specialties where it has a comparative advantage. Wolff observes that "the U.S. is maintaining its [productivity] advantage in aircraft, large-scale computers, and chemical industries precisely those goods for which export demand has been strong."

HOW THE JAPANESE COULD ROIL U.S. STOCK AND BOND MARKETS

For a few years now, stock market analysts and economists have sensed a connection between the behavior of the Japanese stock market and U.S. stock market. Since the October 1987 crash, for instance, the Nikkei Stock Average appears to have led Standard & Poor's 500-stock index. Analysts have speculated that Japanese investors take their gains and reappportion a percentage of their investments in U.S., thereby pulling the U.S. market upward. Now, Lacy H. Hunt, economist at Carroll McEntee & McGinley Inc., arguing that a similar link between Nikkei and the U.S. bond market exists. As the Japanese market rises, he says, the 30-year bond yield declines. What this means, says Hunt, is that if Nikkei turns down for a period of time, Japanese investors would unload their U.S. investments, and that would not only the U.S. stock market but the bond market as well.

IS JAPAN'S THRIFT OVERSTATED?



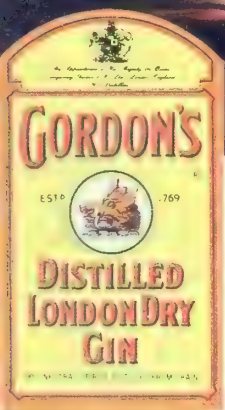
DATA: FUMIO HAYASHI, FEDERAL RESERVE BANK OF MINNEAPOLIS QUARTERLY REVIEW, BW EST.

comparable. The two most important differences, the economist says, involve how capital is depreciated and how government expenditures are categorized. After adjusting for these differences, Japan's net national product—gross national product after depreciation—is lower than reported, and so too is net national savings.

The adjusted data show that after peaking in 1970, the Japanese savings rate fell rapidly over the decade from 26% to about 7%. Then it turned up, while the U.S. rate declined. This time, fundamentals rather than differences in accounting are at work. In Japan, the

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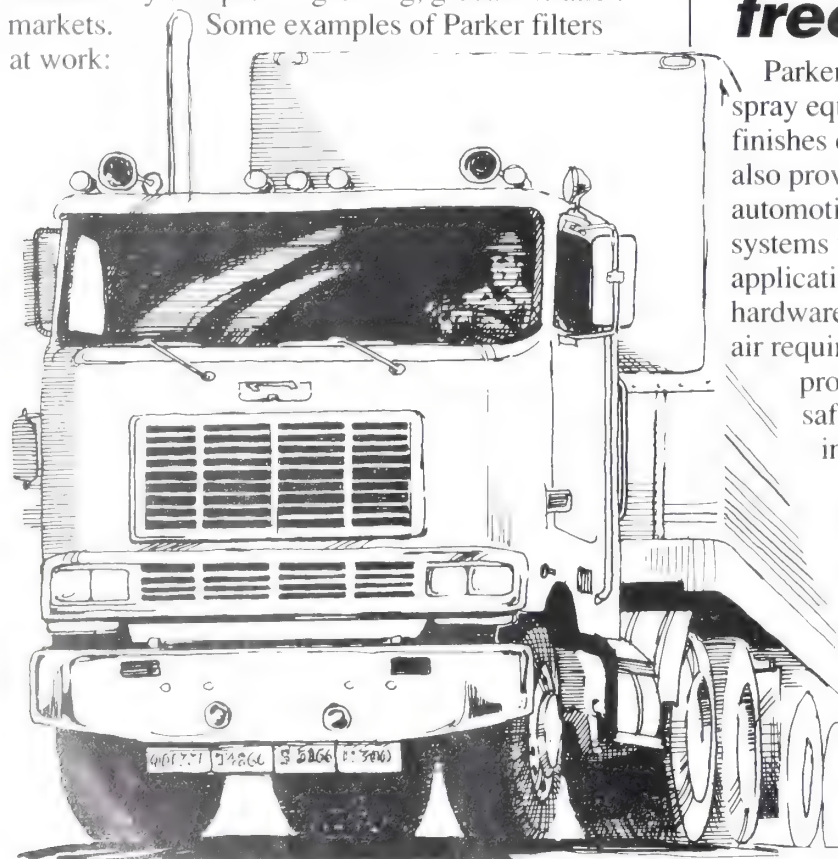
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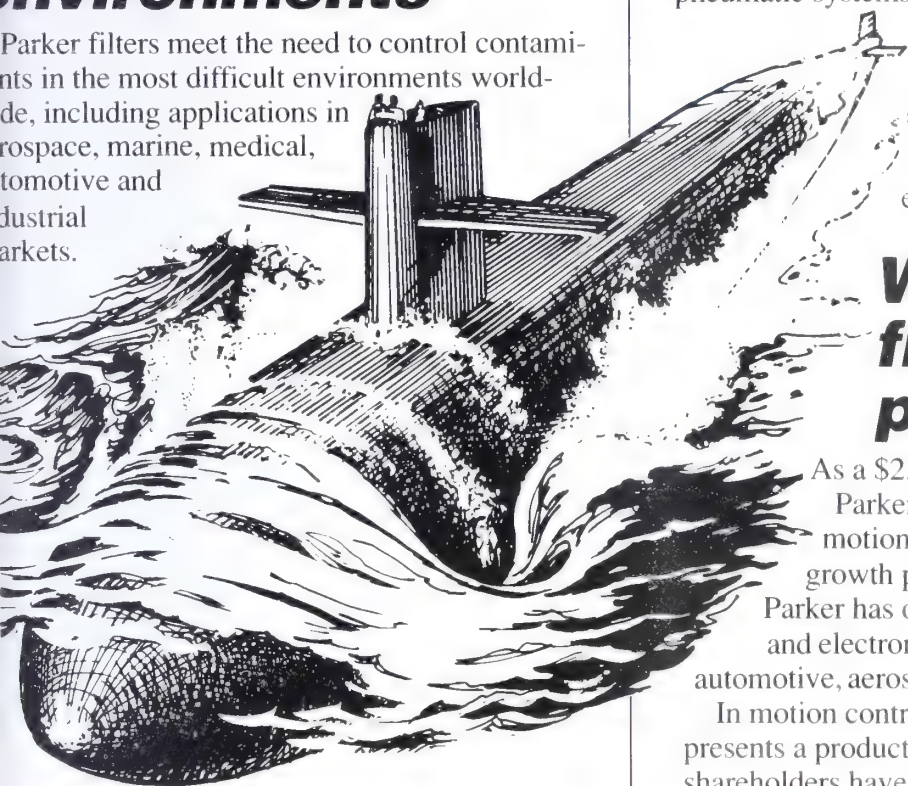


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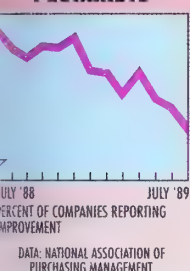
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THE EXPANSION MAY BE SPUTTERING —BUT IT REFUSES TO DIE

Good things happen in threes. For two quarters, the nonfarm economy has grown slowly enough to ease upward pressures on prices. Can it continue to execute a "soft landing" in the third quarter? That's imperative if inflation's grip is to loosen further. The risk is that the economy may crash. To lessen the odds of a downturn, the Federal Reserve Board—now more concerned about slumping growth than rising prices—continues to nudge down interest rates. The Fed's funds rate, the interbank borrowing charge, fell 9% in the week ended Aug. 2. Fed funds haven't moved that cheaply since late December, 1988.

PURCHASERS' INDEX PLUMMETS



in sluggish this quarter, point to continued malaise. But a recession may not be just around the corner. An increase in consumer confidence, little worry about inventory levels, and strength in export orders suggest that this quarter may not be the last for this expansion.

EXPORTS ARE TAKING UP SOME SLACK

It's true that the latest index of business activity doesn't point to economic strength. The National Association of Purchasing Management's July index plummeted to 46%, from 48.8% in June (chart). The index now is at its lowest since January, 1983. Purchasers reported declines in employment, orders, and production. The third consecutive drop in the purchasers' index is not greeted favorably on Wall Street. Stock prices fell sharply on the news. But the index' decline does not signal a recession. According to the NAPM, the index has dropped below 44% to indicate a falling economy. Certainly, though, slower growth is in the cards. The NAPM reports that during the past four months, the index has averaged 49.4%, a rate consistent with gross-national-product growth of 1.7% for the rest of the year. The report also noted that exports continue to fuel the industrial sector. The NAPM finds that more of its members are exporting now than in previous months, and 70% of those exporters had bigger orders from abroad in

July, up from 18% in June. In addition, export orders for machine tools nearly tripled in June from May. That means foreign demand should continue to boost the industrial sector in the next two quarters.

EQUIPMENT SPENDING AIDS GNP GROWTH

Growth was neatly within the soft landing range in the second quarter: Real GNP expanded at a 1.7% annual rate. That was less than half the 3.7% pace of the first quarter, but adjustments for last year's drought added 2.2 percentage points to first-quarter growth.

Excluding the drought, real GNP grew at a 1.6% annual rate during the first half. That's enough to keep the expansion on track, but it allows capacity and labor demands to loosen enough to cool off inflation.

Inflation did get warmer in the second quarter. The GNP fixed-weight price index advanced at a 5.2% annual rate, up from its 4.8% clip in the first. But surging energy prices accounted for all of the acceleration. Since those prices are expected to be more stable this quarter, inflation's pace should fall back this period.

Business investment in equipment, plus a small narrowing of the net-exports deficit, added to overall growth last quarter. Spending on producers' durable equipment skyrocketed at an annual rate of 13.6%, following a 9.6% jump in the first quarter. And in foreign trade, exports were up at an 11.3% rate. That outpaced the 8.7% gain in imports, much of it in oil products.

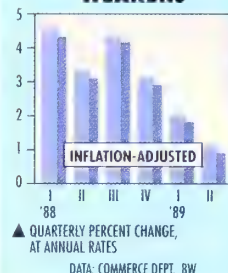
Sluggish consumer spending has been the biggest impediment to growth this year. Consumer spending increased in the second quarter at a small 1.1% annual rate—the slowest pace in 1½ years (chart). Services accounted for all of the meager gain, rising at a 3.7% annual rate. Goods purchases fell 1.4%, after price changes.

Spending was slack throughout the quarter. June's consumer spending, before adjusting for inflation, was flat, at an annual rate of \$3,441.4 billion. After price changes, it was down 0.1%, the third fall in four months.

Construction hurt second-quarter growth. Real investment in nonresidential buildings fell at a 9.9% annual rate last quarter. And homebuilding plunged at a 14.4% annual clip, after a 5.2% drop in the first quarter.

This downward trend should continue into the next few quarters. Despite the recent drop in mortgage rates,

CONSUMER SPENDING WEAKENS



Business Outlook

many households still can't afford to buy a home. In June, new single-family homes sold at a 670,000 annual rate, down 6.4% from last year. And as business executives worry about a possible recession, companies won't commit themselves to huge industrial building projects.

NO NEED TO WORRY ABOUT INVENTORY

One warning sign of an impending recession would be an excessive buildup of inventories. Right now, that isn't a problem. Real nonfarm inventories grew at an annual rate of \$19.6 billion last quarter, not much faster than the \$16.9 billion buildup in the first quarter.

Most of the accumulation was in the wholesale sector. Real inventories there swung from a \$2.4 billion drawdown in the first quarter to a \$4.7 billion accumulation in the second. All of that was in durable goods, particularly autos. Nondurable-goods inventories at the wholesale level haven't risen in a year.

Manufacturing inventories also grew at a faster pace last quarter. But most of the accumulation was concentrated in the early months. In June, manufacturing stocks increased just 0.3%, to \$366.2 billion. That was the smallest gain in two years.

In retailing, inventory problems seem to be cropping up in nondurable goods. In the second quarter, they rose at their fastest pace in three years. Not surprisingly, consumer demand is weakest for softgoods, especially food and gasoline. Shoppers, probably resisting price hikes, cut their purchases of those two items. But consumers will have to start buying those important staples, so inventories here are likely to trend down soon.

PRICES AND TAXES PUT A PINCH ON SPENDING

Still, it takes rising incomes to prompt consumers to spend. And it's partly because consumers were not so flush that spending was sluggish last quarter.

True, personal income increased at an annual rate of 7.5% in the second quarter, following a 13.3% rise in the

first. In June alone, personal earnings rose a moderate 0.3%, to an annual rate of \$4,407.3 billion, led by health gains in interest income and service-industry salaries.

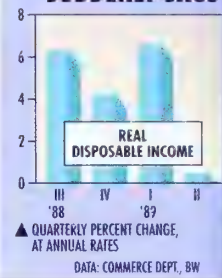
But income growth in the last quarter barely kept up with rapid increases in prices and taxes. Because tax reform lowered tax rates starting in 1988, some workers pushed part of their 1987 income into the following year. That meant that taxpayers faced a higher overall tax bill in April. Uncle Sam reaped a record amount of tax payments in that month, and consumers had less cash to spend.

At the same time, the rapid runup in prices, especially in food and energy, cut into income gains. So in the second quarter, inflation-adjusted, after-tax earnings edged up at a meager annual rate of 0.4%, the smallest gain in a year (chart). The one-two punch of inflation and taxes may go a long way to explain why consumers were reluctant to shop last quarter.

But in the third quarter, income isn't likely to be hurt by either of those factors. In addition, consumers' outlook on the economy—another important determinant of spending—has improved. In July, the index of consumer confidence compiled by the Conference Board increased a strong 3%, to 120.7. That matches the index' 20-year high, posted in February. The same survey of 5,000 households also showed that more people are planning to buy a home or new appliances than at almost any other time this year.

A rebound in consumer spending would keep the economy growing until the current decline in interest rates kicks in to help other sectors. So odds are increasing that this expansion will still be alive when its seventh birthday rolls around in the fourth quarter.

INCOME GROWTH SUDDENLY SAGS



THE WEEK AHEAD

INSTALLMENT CREDIT

Monday, Aug. 7

Consumers most likely added about \$2.2 billion worth of new installment credit in June. That small increase is suggested by falling car sales in the month and weak gains in both nonauto retail sales and personal loans at commercial banks. Increases in installment credit tapered off in recent months, as consumers resisted buying many items, especially new cars. In May, installment credit grew by \$3.6 billion.

UNEMPLOYMENT CLAIMS

Thursday, Aug. 10, 8:30 a.m.

About 350,000 new claims for state unemployment-insurance benefits probably

were filed during the week ended July 29. Since early May, jobless claims have been rising steadily, a result of sluggish economic growth. For the week ended July 15, 354,000 claims were initiated, the largest number in a year.

PRODUCER PRICE INDEX

Friday, Aug. 11, 8:30 a.m.

Most economists expect producer prices of finished goods to post a small decrease of about 0.2% for July, after falling 0.1% in June. Upward pressures on the prices of intermediate goods and crude materials have abated since last year, and that is reducing the upward trend in costs for finished goods. As a result, inflation at the wholesale level will most likely moderate during the sec-

ond half of the year. In the first six months of 1988, such prices rose at an annual rate of 7.6%.

RETAIL SALES

Friday, Aug. 11, 8:30 a.m.

Retail sales probably rose a strong 0.3% in July. Sales of domestically made cars, down in June, rebounded this month, and spending on other durable goods most likely increased as well. That's suggested by the gain in consumer confidence. The expected gain would reverse the 0.4% decline in June and the 0.1% drop in May. It would also mean that retail sales started the third quarter at a healthy level, even after price changes. Real retail sales have fallen in the first two quarters.



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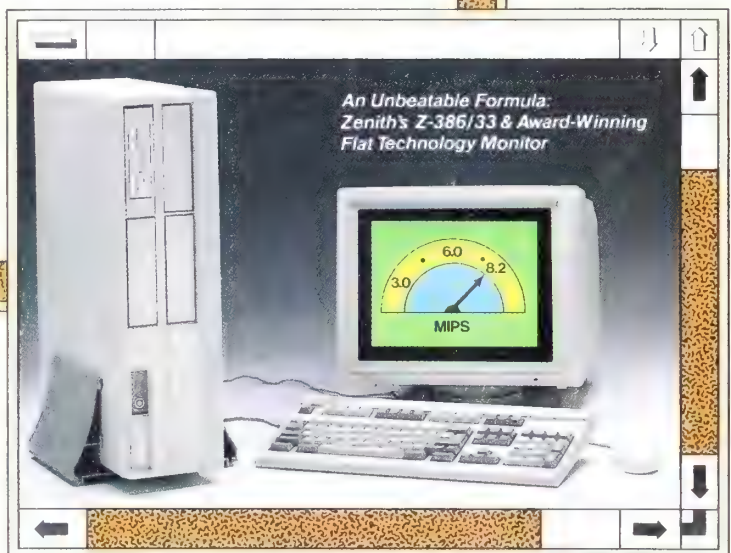
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FUTURES SHOCK

FRAUD CHARGES SHAKE THE CHICAGO EXCHANGES

Like a squad of latter-day Wyatt Earps, on Aug. 2 the Bush Administration's top criminal enforcers rode into Chicago. And, determined to end the Wild West days of Chicago's futures exchanges, they hit LaSalle Street with a fusillade of indictments.

Flanked by Attorney General Dick Thornburgh and Federal Bureau of Investigation Director William S. Sessions, U.S. Attorney Anton R. Valukas unveiled a massive criminal case against 46 brokers in futures contracts for soybeans, Treasury bonds, Swiss francs, and Japanese yen. Although the specific allegations range from conspiring to defraud the Internal Revenue Service to commodities law violations, they add up to a central contention: The accused stole profits

from customers and cheated the government of taxes while trading on the floors of the Chicago Board of Trade and the Chicago Mercantile Exchange. What's more, prosecutors are charging that the brokers and traders allied themselves into nothing less than fluid sets of criminal rackets.

Thornburgh hailed the indictments as proof of the government's commitment to stamp out financial fraud. "This is only part of an expanding Justice Dept. crackdown on white-collar crime in all its guises," he said. "From Wall Street to LaSalle Street to Main Street and all stops in between." Only two days earlier, federal prosecutors won a major victory on another front, when a New York jury convicted six Wall Streeters in a securities-

crimes trial that also featured racketeering charges (page 46).

On the trading floors, the news produced some defiant talk. "What kind of percentage is that?" asked a 20-year CBOT veteran. "We've got 3,500 members here and just a total of 22 [CBOT] bad apples. It's nowhere near as bad as I thought it would be."

BAD OMEN. But Valukas emphasized that his investigation is continuing. At least eight of the 46 brokers have agreed to cooperate as government witnesses—a bad omen for the other suspects, not to mention *compadres* on the trading floors who may still be under suspicion. Against those same eight, the Commodity Futures Trading Commission said that it has settled civil enforcement actions. The settlements, CFTC Chairman Wendy L. Gramm said, will result in the traders' removal from the exchanges.

The indictments also cloud the future of the Chicago exchanges themselves, which have sought to control the agenda of futures-industry reform since the two-year undercover sting investigation was first revealed in mid-January. They spotlight the limited abilities of the exchanges and the CFTC to police wrongdoing on the trading floors. And they demonstrate how the use of the controversial Racketeer-Influenced & Corrupt Organizations Act can be a potent weapon in the hands of zealous government agents.

The charges paint a detailed picture of widespread graft, corruption, and conspiracy on the floors of the world's



"The only thing
that's different . . .
is that
these people
may be wealthy"

ANTON R. VALUKAS
U.S. Attorney



largest futures exchanges. The accusations include:

■ **Trading ahead of customer orders.** Knowing of an incoming order, traders would take positions that would become profitable once the client's order hit the trading pit. They would later split the profits among accomplices, often through illegally arranged trades.

■ **Pre-arranging trades.** Traders would dodge their own losses and assign them instead to customers through trades agreed upon quietly, away from the trading pit. In addition, they would cover mistakes through pre-arranged trades. And they also often would kick back profits to one another by artfully arranging the execution of customer orders.

One example: Martin J. Dempsey, a soybean trader, allegedly tried to avoid a \$29,700 personal loss by passing it to an undercover FBI agent, who posed as an accomplice. They later agreed to recoup the loss by skimming profits from Dempsey's

10	7694	7650			7244	7330			2154	2206
20	7996	7956	7700	7542	7620				2156	
20	7396	7356	7100	6942	7020				2255	2306
									2055	2106

SOYBEANS



MARK	IMM CAN DOLLAR		PORK BELLIES		CME FEED CATTLE		CME LIVE CAT	
	MAR	JUN	FEB	MAR	JAN	MAR	FEB	APR
0	8401	8355	4022	4085	8400	8210	7290	7375
7	8381	8345	3950	4015	8360	8175	7232	7315

7's customers, according to prosecutors. swapping such favors, the government charging, hundreds of traders bilked thousands of customers out of untold sums. Neither Dempsey nor his attorney, Robert M. Stephenson, could be reached for comment.

Trading opposite customer orders. Brokers would arrange for traders to routinely take the other side of a customer's order, thereby denying other market users opportunity for profits. They would "assist," or disavow, trades that went against traders and benefited customers.

Destroying records. Traders sometimes could destroy the trading cards that are the only meaningful record of their trading activity and rewrite them to reflect fictitious activity.

Defense lawyers are incensed about what they see as the government's heavy-handed use of the RICO statute. Back in January, government agents knocked on traders' doors late at night and threat-

ened to seize their homes and cars if they refused to cooperate in the investigation. "They've attempted to coerce cooperation and punish people who stood up to the government," says Thomas A. Durkin, who is representing Sam A. Cali, an indicted trader in Japanese yen who plans to defend himself against the charges. Valukas counters that RICO is a standard prosecutorial tool. He adds: "The only thing that's different about this investigation is that these people may be wealthy."

The indictments also are noteworthy for what they don't allege. Rumors that exchange officials might be charged with wrongdoing proved unfounded. Valukas said it was necessary to name the exchanges as criminal enterprises in the indictments—but only as a procedural matter. "There's nothing about the charges that we brought today that implicates any exchange officials or their staffs or the exchanges," he said.

The exchanges may want to let out a

long, loud sigh of relief. But they haven't long to relax. Because to public investors, not to mention Congress, they still have lots of explaining to do. Representative Glenn English (D-Okla.), who said the indictments signaled a "black day" for the futures industry, already had introduced a bill that seeks to ban most forms of so-called dual trading, the controversial practice in which brokers handle customer business while also making trades for their own accounts.

The Board of Trade has staunchly defended dual trading, while leaders of the Merc were forced by rebellious members to beat a hasty retreat from a proposal to virtually ban the practice. Now, the threat to business as usual couldn't be plainer. Says CBOT President Thomas R. Donovan: "Where there's smoke, there isn't always fire. But where there's smoke, there's always smoke damage."

By David Greising, with Julia Flynn Siler in Chicago and Tim Smart in Washington

A VERDICT THAT MIKE MILKEN HOPES IS NO WARM-UP

Six Wall Street convictions may bode ill for his defense strategy

In their war on Wall Street corruption, federal prosecutors have burst through enemy lines. After little more than two days of deliberations, a Manhattan jury on July 31 convicted five officials of the defunct Princeton/Newport Partners and a former Drexel Burnham Lambert Inc. trader. The jury found them guilty on all but one of 64 counts of tax fraud, securities violations,

another big-time Wall Streeter, Robert M. Freeman of Goldman, Sachs & Co.

No question, Milken and his advisers now must be assessing the damage the Princeton/Newport case has done to their defense strategy. And on first blush, the obvious similarity between the two cases suggests that Milken has been wounded gravely. Yet a close reading of the Princeton/Newport case suggests

\$25 million convertible bond offering Drexel arranged for COMB Co. The Princeton/Newport indictment alleges that Drexel trader Bruce Lee Newberg helped push down the price of COMB stock to make it easier for Drexel to unload the bonds. But prosecutors introduced no evidence to show that Milken was involved in the scheme—even though the market manipulation allegedly benefited Drexel.

Another overlapping transaction may prove more damaging to Milken. It concerns an alleged scheme involving Newberg to hide Drexel's holdings in Mattel Inc. by "parking" the stock with Princeton/Newport. The judge dismissed most of the charges because they failed to state a case of wire or mail fraud. Still, unlike the other deals, Milken was directly involved with Mattel, which had asked Drexel for help in recapitalizing. And because Drexel allegedly held a significant undivided interest in Mattel while also aiding the company's financial makeover, it could be easier for prosecutors to persuade jurors that Milken knew what Newberg was up to.

THE FEDS' ASSAULT ON WALL STREET FRAUD: A SCORECARD

U.S. vs. GAF January and March, 1989: Stock manipulation trials of GAF and a vice-chairman end in two mistrials. Third trial, with convicted broker Boyd L. Jefferies as star witness, is scheduled for Nov. 6

U.S. vs. LISA JONES Mar. 22, 1989: Jury convicts former assistant to Drexel trader Bruce Lee Newberg of perjury and obstruction of justice for lying to a federal grand jury

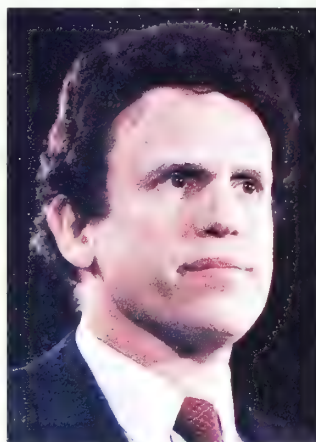
U.S. vs. DREXEL BURHAM LAMBERT June 20, 1989: Federal Judge Milton Pollack approves Drexel Burnham Lambert's settlement with the SEC. This clears the way for a separate pact between the firm and the U. S. Attorney's office in Manhattan in which Drexel pleads guilty to six felony counts, including one relating to trading with Princeton/Newport, and agrees to pay \$650 million

U.S. vs. PAUL A. BILZERIAN July 9, 1989: Jury convicts corporate raider and former Singer Co. chairman of nine counts of securities fraud, conspiracy, and making false statements in the first jury verdict criminalizing stock parking. Penalties may include up to 45 years in jail and \$2.25 million in fines. Sentencing is scheduled for Sept. 15. Bilzerian has vowed to appeal

U.S. vs. JAMES SUTTON REGAN, ET AL. July 31, 1989: Jury convicts five officials of Princeton/Newport Limited Partnership and a former Drexel trader, Bruce Lee Newberg, of conspiracy, racketeering, stock manipulation, and tax-related fraud. Penalties can include upward of 40 years in jail and millions in forfeitures

U.S. vs. SALIM B. LEWIS Sept. 18, 1989: Trial set on stock manipulation, conspiracy, and related charges stemming from allegations that the arbitrageur manipulated Fireman's Fund securities

U.S. vs. MICHAEL R. MILKEN, ET AL. March, 1990: Tentative date set for trial on a 98-count indictment charging racketeering; various mail, wire, and securities frauds; and other offenses. New, superseding indictment is believed to be imminent



MILKEN: HANGING TOUGH

DATA BW

and other crimes. Two days later, jurors decided the defendants should forfeit \$3.8 million to the government. An appeal of the decision is likely.

Beyond the sweep of the jury's verdict, the case is important because it's a milestone in the government's drive to put Michael R. Milken, the former Drexel junk-bond chief who faces a 98-count indictment, behind bars. It also figures to give prosecutors confidence as they bring to trial several other cases (table). And it may resolve the long-stalled insider-trading investigation of

that Milken's injury is not quite as severe as it might look. For starters, Milken's name came up at the trial only once: When asked about him during cross-examination, Princeton/Newport Managing Partner James Sutton Regan testified that he hadn't talked to Milken for five years and hadn't done business with him since the 1970s.

While most of the Princeton/Newport allegations involved an extensive tax-avoidance scheme, some charges overlap those in the Milken indictment. One set of charges stemmed from a proposed

haven't shaken his resolve to fight. Even so, his fight now promises to be tougher than before the verdict. Newberg, Milken's former subordinate, faces jail time. To shorten that time, he may now be willing to testify against Milken. And the prospect of a similar plight also may stimulate cooperation from other current and former Drexel employees. Charles M. Carberry, a former prosecutor, puts it: "When jail is a reality, it's like alcohol: It loosens tongues."

By Michele Galen, with Chris Welles, New York

A TAX BREAK GEARED TO HIGH ROLLERS

Just a few weeks back, it seemed like George Bush's impossible dream. While Democratic leaders defied, the President stuck by his campaign pledge to cut taxes on capital gains. Now, Bush seems headed for victory, his prize handed to him by deeply divided congressional Democrats. Thanks to a revolt by mainly South-Democratic moderates, the question is no longer whether capital-gains taxes should be cut, but when and how. Congressional Democrats and the White House are struggling to work out a compromise. Right now, both sides are obsessed with gathering the votes to get a plan through Congress this fall.

Behind the political jockeying, there is a fundamental difference between what Bush and many House Democrats want to accomplish by trimming the tax. The outcome of the struggle will create a new class of economic winners and losers and will help shape the future of investment in the U.S.

The Administration, which is pushing hard to cut the top rate on capital gains to 15%, views the change as a way to encourage high-risk, high-reward investment. Says Michael J. Boskin, chairman of the Council of Economic Advisers: "It is designed to encourage more entrepreneurship."

Democratic leaders, who for months have decried any change in the tax treatment of investment profits, now are arguing to exempt gains generated only by inflation. That approach would do relatively little for speculators or venture capitalists, who often get payoffs far in excess of the inflation rate. But run-of-the-mill investors—who may cash in mutual funds or a rental house, are likely to fare at least as well under indexation as with a rate cut (table).

IS THERE A HIGH INCENTIVE? At the heart of the debate is a simple question: What kind of investment does Washington want to encourage? Should tax policy be geared toward high-flyers who might bankroll the next Apple Computer Inc.? Or should it cushion the inflationary blow on those who invest in less spectacular, more mainstream companies?

There are tens of thousands of very wealthy individuals who invest in high-risk ventures. For them, a cut in the capital-gains rate could make the difference between buying into a startup or taking a pass. "You've got to deal with tax incentives if you want to encourage this type of capital flow," says Gordon S. Macklin, chairman of Hambrecht & Quist, a San Francisco investment bank that specializes in financing startups. But, Macklin adds, "indexing doesn't give any advantage to venture investing. You should get more incentive for taking higher risks."

startups can't sell stock and must finance their new ventures at the bank. Their owners get no benefit from the Bush plan until they cash out. They need tax breaks at the beginning, when cash flow is tight, rather than at the end of the rainbow. Says University of Pennsylvania economist Alan Auerbach: "It would be more effective to provide incentives to the companies than the investors."

IMPRACTICAL. Bush's original proposal would have benefited only buyers of stocks and bonds. But to forge a winning political coalition, the President

has reluctantly embraced the idea of extending the tax break to depreciable assets, including timber and real estate. That has won the support of many lawmakers, but most analysts doubt it makes much economic sense. Even Administration officials privately concede that including nonfinancial assets will prove to be little more than a tax windfall at considerable cost to the Treasury.

American Enterprise Institute economist John Makin believes the Administration's dream of a tax change that will cause an outpouring of new investment is a nice idea but not very useful for businesses looking to raise capital. "Indexing is not as sexy," he says. "But if you're a corporate treasurer, you're more likely to benefit."

George Bush doesn't think so. He has already pulled off an amazing coup by getting the House Democratic leader-

ship to endorse indexing of capital gains. In fact, some economists with close ties to the Administration, including Makin, believe Bush should now accept indexing and declare victory.

Already, there is talk of merging the two approaches. But Bush still wants the bulk of the benefits to go to risk-takers. His economic brain trust—Boskin, Treasury Secretary Nicholas Brady, and Budget Director Richard Darman—sees the rate cut as a key element in Bush's competitiveness policy. But it remains to be seen whether a capital-gains cut that showers most of its benefits on a few high rollers is the best way to build a more vibrant economy.

A CAPITAL-GAINS TAX CUT: THE SPECULATOR'S FRIEND

HOW THE AVERAGE INVESTOR MAKES OUT AFTER TAKING AN AVERAGE PROFIT

	Tax rate		
	15%	33% inflation-indexed	Current law (33%)
BASIS	\$1,000.00	\$1,000.00	\$1,000.00
SALE	1,090.00	1,090.00	1,090.00
NOMINAL GAIN	90.00	90.00	90.00
REAL GAIN*	40.00	40.00	40.00
TAX	13.50	13.20	29.70
REAL AFTERTAX RETURN	2.65%	2.68%	1.03%

HOW THE HIGH ROLLER MAKES OUT WHEN A LONG SHOT PAYS OFF

	Tax rate		
	15%	33% inflation-indexed	Current law (33%)
BASIS	\$1,000.00	\$1,000.00	\$1,000.00
SALE	1,300.00	1,300.00	1,300.00
NOMINAL GAIN	300.00	300.00	300.00
REAL GAIN*	250.00	250.00	250.00
TAX	45.00	82.50	99.00
REAL AFTERTAX RETURN	20.5%	16.75%	15.1%

*After adjustment for inflation

DATA: BW

A rate cut for gains, the White House argues, will increase the aftertax return for these risk-takers. And that will provide more seed money, at less cost, for new companies.

Critics of the Administration's plan agree that a rate cut will steer some money to startups but in an inefficient way. They note that many of the big hitters the Administration is aiming at won't be helped much by the plan. More than half of all professional venture capital comes from pension funds or foreign investors. And since they don't pay U.S. taxes, they don't care what the capital-gains rate is.

In addition, the great majority of



PLACE YOUR BETS: BALLY FIGURES A MYSTERY PARTNER COULD HELP BOOST ITS MARKET VALUE

WILL THREE BE BALLY'S LUCKY NUMBER?

After two restructuring bids flopped, another is in the works

Bally Manufacturing Corp. has rolled snake eyes for investors twice before. In mid-1987, the company agreed to sell its Health & Tennis unit, the nation's largest operator of health clubs, for about \$500 million. Then came the October stock crash, and the deal was scuttled. The following August, Bally proposed spinning off 85% of the stock in its casino and hotel operations. Bally scotched the plan last February, citing opposition from New Jersey gambling regulators.

Now, Bally is throwing the dice again. After a two-week runup in its stock, the company revealed on July 28 that it was holding preliminary talks on a restructuring. On Aug. 2, Bally Chairman Robert E. Mullane told *BUSINESS WEEK* that the company and its advisers have been talking for six weeks with a potential partner for one of its major businesses. Mullane says he hopes to strike a deal within the next few months.

Despite poor second-quarter results, Bally's announcement helped send its stock soaring more than 20%, to 29 3/4, a 52-week high. Wall Street, which has often viewed Bally as a takeover target,

figures that the company could be worth \$35 to \$42 a share if it were taken apart. Mullane is betting that he'll be able to achieve the same sort of gains by bringing in an ally.

But precisely who that will be or how the company can boost its market value remains mostly a matter of speculation. For one thing, the company probably

sales growth. And in the fragmented billion U.S. market, which is divided among several hundred companies, there appear to be few buyers on hand with the \$600 million or more that such a deal would take.

Even Bally's plan to laden its Palms Place casino in Atlantic City with \$200 million in new debt seems jinxed. On July 31, New Jersey's Gaming Enforcement Div. announced a plan to recommend disapproval of the recapitalization, citing concerns over the casino industry's growing debt load. Paul J. Johnson, Bally's chief financial officer, who was scheduled to begin testimony before the state's Casino Control Commission on Aug. 3, concedes that the battle has been difficult.

'DISAPPOINTMENTS.' Bally's other options include divesting its \$200 million gaming equipment and lottery business or its struggling Reno (Nev.) casino. While these moves could help the company pare down its fat debt and leave a leaner company with better earnings potential, they aren't likely to be enough to give the stock the dramatic boost that Bally management wants. Similarly, analysts such as John P. Uphoff at Raymond, James & Associates believe that a leveraged buyout of the company is unlikely, given its nearly 3-to-1 ratio of debt to equity.

All this is why the stock's recent move has provoked some skepticism. "Bally is not moving on fundamentals," says Marvin B. Roffman, a gaming analyst at Janney Montgomery Scott Inc. Some investors, in turn, are taking their profits while they can. Already, the stock has dropped more than \$2 since its high on July 31. Observes one institutional investor, who recently sold off a small percentage of his shares, "Bally's stock is getting away ahead of itself in terms of earnings."

That became clear from its second-quarter results. Bally lost \$4 million, before onetime items, on revenues of \$518.8 million. Mullane attributed the loss to the costs of an 800-room addition to Bally's Palms Place casino, poor performance at its health clubs.

Mullane won't say how he plans to boost Bally's stock. "I know there have been disappointments in the past," Mullane says. "I can't guarantee our shareholders anything. That is the risk they take." That said, it's a risk fewer investors are likely to take.

By Julia Flynn Siler in Chicago

BALLY'S CASINO HOTELS ARE HITTING IT BIG

Segment	1988 revenues		1988 operating results from continuing operations	
	Millions of dollars	Percent of total	Millions	Percent
Casino hotels	\$935.8	48.2%	\$150.2	61.3%
Health and fitness	719.1	37.1	89.4	36.4
Gaming equipment and services	200.9	10.4	15.9	6.5
Amusement games and services	109.3	5.6	20.5	8.4
Corporate and intersegment eliminations	-24.3		-30.8	
TOTAL	\$1,940.8	100.0%	\$245.2	100.0%

DATA: COMPANY REPORTS

won't sell its casino and hotel business, which accounted for 48% of its sales and a full 61% of its operating profit in 1988 (table).

Attracting a rich enough offer for Bally's other major business, the chain of more than 300 health and tennis clubs, may also be difficult. Analysts, such as Merrill Lynch & Co.'s Harold L. Vogel, contend that health clubs have peaked in

HOW IT'S CHRIS BLACKWELL, CORPORATE HIPSTER

Island Records surrenders to PolyGram for \$300 million

Chris Blackwell may be too hip to own a copy of Frank Sinatra's schmaltzy rendition of *My Way*. There are few executives in the biz who have done things their own way for so long as the iconoclastic founder of London-based Island Records. He launched such acts as Traffic and U2 with his deep roots in the Caribbean, introduced the pulsating beat of reggae to a global audience.

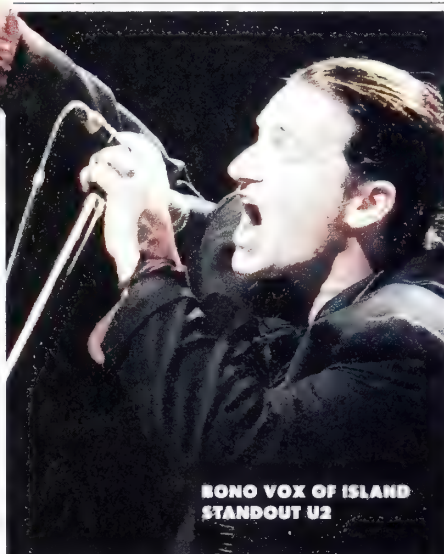
For this 52-year-old hipster, continued happiness under the umbrella of one of the world's best record companies? Especially since the buyer, PolyGram International Ltd., is itself a 90%-owned unit of Dutch electronics giant Philips? On Aug. 1, Blackwell announced he'll sell his \$200 million music production and publishing operations to the London giant for an undisclosed amount. Outsiders pegged it at as much as \$300 million. Blackwell controls 30% of the company; the rest belongs to private investors, including the band U2.

TOO GOOD. PolyGram says it's more than happy to let Blackwell continue doing his thing. But the cultural differences between Island and its new parent are clear enough at the press conference announcing the deal: The hirsute Blackwell, wearing jeans, a wrinkled shirt, and no socks, sat next to PolyGram President David G. Fine, soberly dressed in a dark blue suit. Insists Blackwell: "I can thrive in this environment." That's a bold statement for a denizen of a business notorious for big egos and shifting loyalties. But there's more to Blackwell's decision to cash out. Executives familiar with Island say PolyGram's offer was too good to refuse. The price comes to an estimated 30% of Island's pretax operating income— a stunning figure in an industry that's slid to multiples of about 10. The total includes about \$35 million for Island's publishing operation, and as much as \$50 million in bank debt.

It's easy to figure why both parties are ready to deal. For Island's part, the money offered is terrific, the business increasingly wasn't. The major independents face a tough slog keeping up with the rising costs of marketing, distribution, new technology, and the atmospheric fees that top artists de-

mand to stay on board. In the past year, several independents have given up the fight: MCA Records and an investor group acquired Motown Records, and EMI Records Ltd. bought into Chrysalis.

For PolyGram, locked in a global fight for market share with Sony Corp.'s CBS Records and Warner Communications Inc.—Nos. 1 and 2 in the world—the logic is equally clear. There are very few independent labels that sell worldwide. Among them, Virgin Records—which claims to be the world's largest indepen-



BONO VOX OF ISLAND
STANDOUT U2

POLYGRAM'S BIG-NAME LINEUP...

Label	Top acts
MERCURY	Bon Jovi, Def Leppard
POLYDOR	Andrew Lloyd Webber
VERTIGO	Dire Straits
LONDON	Fine Young Cannibals
DEUTSCHE GRAMMOPHON	Leonard Bernstein
PHILIPS	Jessye Norman
DECCA	Luciano Pavarotti

Total recorded music revenues: \$1.7 billion

...ADDS SOME NEW STARPOWER

ISLAND	U2, Tone Loc, Anthrax
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Total recorded music revenues: \$200 million

DATA: POLYGRAM RECORDS, ISLAND RECORDS

dent—says it may take on a minority partner. Los Angeles-based A&M Records would also be a prize catch.

Island's days as an independent were probably numbered. The label had trouble hanging onto its big acts once they attained superstardom. Blackwell lost artists such as Steve Winwood, Robert Palmer, and Grace Jones to better-heeled labels that offered bigger contracts. PolyGram's Fine says the defections will stop: "There is absolutely no chance that a deal will be lost because of money, provided the quality is there." PolyGram agreed not to prevent Blackwell from signing any artist he wants.

The deal both gives PolyGram access to Blackwell's fabled talent-scouting prowess and broadens its product line. No. 3 PolyGram is a \$1.7 billion giant in classical, pop, and jazz. Island's roster will expand its offerings beyond mainstream teen idols such as Bon Jovi and Def Leppard (table).

PolyGram can't expect a quick payback, however. Island is locked into existing distribution agreements with PolyGram competitors—until next May in the U.S. with Warner Communications and for five years overseas with West Germany's Bertelsmann. And the U.S. record business has fallen into an unexpected slump since April, in large part because teenagers are spending so many of their entertainment dollars on this year's rich crop of must-see movies.

STILL SEARCHING. Blackwell has thrived through many such turns in the music business. The London-born executive founded Island in 1962, and soon after was flogging Caribbean recordings from his car in British inner cities. Island's first hit, the reggae tune *My Boy Lollipop*, was distributed by a sister PolyGram label in 1964. After scoring chartbusters with the likes of Jethro Tull and Cat Stevens, perhaps his greatest achievement was to turn an obscure Jamaican, Bob Marley, and his reggae music into an international sensation.

The search for new pop sounds goes on for Blackwell. Lately he has been pushing African and Cuban musicians. An admiring Bhaskar Menon, chairman of EMI Music Worldwide, says: "He has a special gift for generating new talent and developing it into superstardom on a fairly consistent basis."

Blackwell's already plotting what to do with the backing of a new parent: He'll reestablish regional labels in the U.S. in such cities as Chicago, Miami, and Houston or Dallas. For his new bosses at PolyGram, who have signed him to a five-year service contract with a two-year option, such enthusiasm must be music to their ears.

By Richard A. Melcher in London and David Lieberman in New York, with Patrick E. Cole in Los Angeles

A CALIFORNIA MISSION THAT MAY BE IMPOSSIBLE

The insurance commissioner's task: Cut premiums and please insurers

Roxani M. Gillespie loves nothing better in spare moments than to study the history of 6th century Byzantium, whose emperor struggled vainly to rebuild the Roman Empire. It's a fitting pursuit for California's insurance commissioner. Although the state's insurance industry isn't exactly crumbling, it certainly has been turned on its head. Enraged by skyrocketing premiums, Californians last November approved Proposition 103, which mandated a 20% rollback in property and casualty rates throughout the state. Suddenly, Gillespie's job was elevated from number-crunching obscurity into one of the hottest seats in state politics.

It has just gotten a lot hotter. Legal challenges initially held up the law's taking effect, but on Aug. 1, after months of mulling over how to implement 103, Gillespie announced plans to force seven of the state's 800 insurers to cut their rates and refund \$305 million to consumers. The targeted companies are expected to fight back vigorously in public hearings over the next few months. The rest of the industry, meanwhile, is anxiously awaiting Gillespie's decision on its fate. Yet despite the rollbacks, consumer groups complain that the former insurance executive isn't being tough enough.

'VERY LEVERAGED.' As if that controversy weren't enough, Gillespie also could play a key part in the unfolding drama sparked by Sir James M. Goldsmith's \$21 billion bid for Britain's BAT Industries PLC—history's second-biggest takeover attempt. BAT owns Farmers Group Inc., an insurer with extensive California operations, and as commissioner, Gillespie must decide whether Goldsmith's acquisition of Farmers is in the interest of policyholders. Gillespie says she's worried about the "very leveraged" nature of the proposed takeover. Goldsmith's group has filed suit in the U.S. to bar her from interfering. At this point, even inaction by Gillespie will endanger Goldsmith's plan, since his bid faces a 60-day deadline under British law.

But Gillespie will make her biggest

mark with Proposition 103. A May decision by the California Supreme Court qualified the law by ruling that companies must be guaranteed a fair profit. Gillespie has the sticky task of deciding what's "fair" and which of the state's insurers will be exempted from the rollback to preserve their profitability.

What's more, the law made Gillespie's \$90,000-a-year job an elected post. Assuming she wants to keep her job, she has just 15 months until the November,



'It's easier to throw a rock at a person than the system. I am not the old system'

ROXANI M. GILLESPIE

California Insurance Commissioner

1990, election to convince voters that she's fulfilling 103's mandate.

Gillespie has an uphill climb. Consumer advocates such as Harvey Rosenfield, author of Proposition 103 and leader of the Los Angeles-based Voter Revolt, vow to force her resignation if she grants too many exemptions. Meanwhile, insurers are confused about her method of computing rollbacks and argue that it could discriminate unfairly against the most efficient operators. Some threaten to sue the state if they don't get what they consider a fair return.

Under pressure from both sides, Gillespie has been known to flash a bit of temper. But not even her foes are immune to her raucous laugh, energy, and charm. Such winning ways would come in handy on the campaign trail.

Having politics in her blood may also help. Both her grandfathers served in the Greek Parliament, and she comes from a long line of politicians and lawyers. Gillespie speaks six languages and earned a law degree in her native Athens by age 21, leaving a year later to marry a Boston engineer. While raising a family, Gillespie took a second law degree from Boston College's law school so that she could practice in the U.S. But in 1970, she decided to join Industrial Indemnity Co. in San Francisco as a claims adjuster. After her promotion to vice-president, Gillespie hit "the glass ceiling," she says.

VISIBLE WOMAN. Governor George Deukmejian hired her away in 1983, tapping her for deputy commissioner. She won the top job in 1986, just as the Insurance Department was awakening from its decade-long slumber. As the state's insurance backlash grew, her department drew increasingly harsh criticism from the likes of Consumer Union, publisher of *Consumer Reports*, for not following up quickly on complaints.

Counters Gillespie: "It's easier to throw a rock at a person than the system. I am not the old system." And she wishes critics would pile down until they see how she puts 103 into action. Before Nov. 8, when 103's provisions kick in, Gillespie and her staff must comb through requests for rollback relief from 443 insurers who hearing appeals from companies already ordered to cut premiums. She's also backing a no-fault auto insurance bill to do what she says 103 does not: reduce medical and litigation costs. If she can hack through that Byzantine mess, Gillespie will have made history of her own.

By Robert D. Hof in San Francisco

THE THORN IN STEVE ROSS'S SIDE

Herb Siegel wants a sweet deal on his stake in Warner

Herb Siegel and Steve Ross. For the past six years, their feud has been one of the corporate world's most notorious. They've battled over Ross's multimillion-dollar salary as Warner Communications Inc. chairman, his fondness for corporate jets, and the fact that Warner provides its movie stars. Now that Warner has been acquired by Time Inc., Ross is only too happy to see his old adversary—and biggest shareholder—bid adieu. The only problem is Siegel doesn't intend to go all that quietly. And certainly not that quietly. Siegel on Aug. 1 received a check for nearly \$1.5 billion for about half of his stake in Warner. But he also still owns more than 6.5 million preferred shares in the company. And that gives Chris-Craft Industries Inc. chairman a way to delay completion of Time's \$14 billion acquisition of Warner. That's a lever for the 61-year-old Siegel in negotiations with Warner.

FOR A BARREL. In recent weeks, lawyers for Siegel and Warner have discussed at least two separate settlements. Siegel would get the Chris-Craft chief out of Ross's hair altogether. In one deal, Siegel could buy Warner's 42.5% stake in Time Inc., a Chris-Craft TV station unit. In another, Warner could pay him a rich price for his preferred shares. Neither is talking, but Siegel's New York lawyer, Peter M. Fishbein, admits that the history of Chris-Craft and Time Warner has been constant litigation and negotiations at the same time." He adds: "Warner will often kick and scream and then just go ahead and settle."

By settling, Time Warner Inc. could avoid two lawsuits now pending in Delaware courts. In the most important, Siegel contends that the Time Warner deal can't be completed unless Warner gets approval from two-thirds of its preferred shareholders. As Warner's only preferred holder, that means him. Warner's legal brief filed with the court, contends Chris-Craft hasn't been "adversely affected by the merger. Warner insists that Siegel's preferred shares are no more than common shares. Siegel should get the same deal as any other shareholder in the \$70-a-share takeover of Warner by Time.

Settling with Siegel won't be easy, however. A jovial man, Siegel nonetheless is a tough negotiator. And Warner



SIEGEL: WARNER IS UNDER PRESSURE TO SETTLE SOON

looks like it's over a barrel, given that it's under court order to sell its BHC stake or to spin it off to shareholders. Warner has valued its BHC shares at \$750 million, but Siegel wants to pay far less. To press his point, one source says, Siegel has reminded Time Warner that it could pay over \$100 million in capital

gains by spinning off the unit.

Ross has been a firsthand witness to Siegel's tenacity since 1983. That's when Siegel came to his rescue by helping him fend off media baron Rupert Murdoch, who had designs on Warner. While watching a football game at Ross's Upper East Side apartment, Ross and Siegel agreed to trade a big chunk of Warner stock for Chris-Craft's BHC stake.

Almost from the start, Siegel was a thorn in Ross's side. He urged Warner to cut overhead and sell unprofitable units. In their most infamous showdown, Siegel threatened a proxy fight in 1987 when the Warner board gave Ross a 10-year contract valued at \$180 million. Ross won that battle when show business heavies and Warner artists including Barbra Streisand and Steven Spielberg backed him.

Ultimately, Ross and Siegel seem sure to come to terms. That will avoid a nasty legal fight, and allow the Time Warner deal to become final. With a fat wad of cash from his Warner stake, Siegel will no doubt go shopping for another investment. As for Ross, he can take solace in the fact that his days with Herb Siegel will be just a painful memory.

By Ronald Grover in Los Angeles

TAKEOVERS

DING-DONG, RAIDER CALLING

Irwin Jacobs goes after Avon—and says he wants to run the company

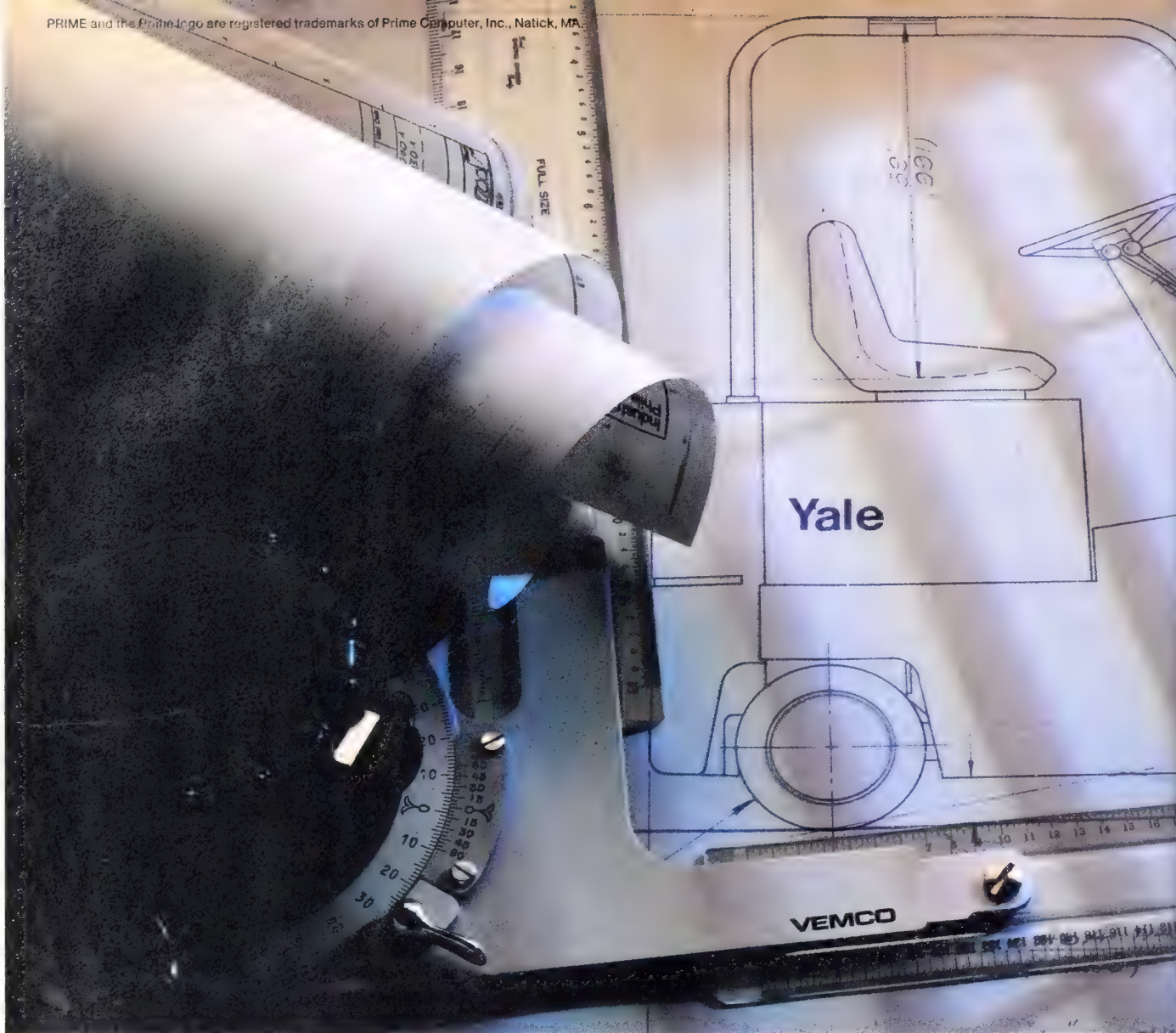
Another unwanted suitor is ringing the doorbell at Avon Products Inc. On Aug. 1, Irwin L. Jacobs approached the company with a cash offer that values the company at \$2.9 billion. Jacobs, who owns 10.3% of Avon's shares in a partnership with Amway Corp., claims he isn't angling to sell stock back to the company. Instead, he says, he wants to run the \$3 billion giant of the door-to-door cosmetics business.

If that's true, it will be a new horizon for the Minneapolis-based raider. Jacobs, who already operates a tiny direct-sales company, likes the business. If his bid succeeds, he claims he'll keep Avon's door-to-door sales operation and sell the company's retail perfume business, which includes Giorgio Beverly Hills. That won't cover the tab: Industry con-

sultants say the unit wouldn't fetch more than \$350 million.

Avon is resisting. In May, it spurned a \$2 billion cash offer from Amway Corp. Amway later dropped its bid. Jacobs insists Amway is not part of the current offer, and Amway representatives refused to comment. Avon has also rejected overtures from Mary Kay Cosmetics Inc., a privately held direct-sales cosmetics company.

SITTING PRETTY. In a letter to Jacobs, Avon Chief Executive James E. Preston said that the board would consider his proposal during a meeting scheduled for Aug. 3. But Preston, a 25-year veteran of Avon's beauty business, has repeatedly declared that his company isn't for sale. He contends that a payoff for Avon's shareholders is close, now that



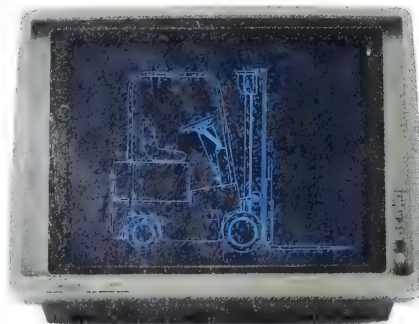
WE HELPED A GROCER AVOID THE

Diagrams. Plans. Drawings.

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After careful screening, Yale



recruited an integrated CAD/CAM (Computer-Aided Design/Computer-Aided Manufacturing) system from Prime.

We started by giving Yale a comprehensive 3-D software package. So they can develop new designs on computers without hassling with the draft board.

We also provided a dependable interface between CAD and CAM capabilities. So engineering can share information with



UP OF YALE MEN DRAFT.

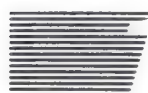
manufacturing and get feedback right away.
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the company has dumped a disastrous diversification into health care and pumped up its core beauty business. Since Amway's offer, Preston has stepped up efforts to trim costs. As a result, he claims, net earnings could hit \$175 million this year. That compares with a loss of \$405 million in 1988.

Analysts think Preston is a tad optimistic. But most concede the company is sitting prettier than it has for years—despite a debt load topping \$1 billion. If Preston can meet his own goals, Avon may be worth more than the \$41 per

common share that Jacobs is offering. "I think the company's worth a hell of a lot more than that," maintains former Chairman Hicks B. Waldron. Counters Jacobs: "I think shareholders should be given the right to make the decision."

So far, Wall Street seems to doubt Jacob's sincerity—or his financing. After Jacob's proposal was made public, Avon's stock rose a mere point, to 36½. Until Jacobs raises the cash, Avon probably won't be under much pressure to open the door.

By Kathleen Deveny in New York, with Wendy Zellner in Detroit

the Constitution gave the U.S. government the power to build post roads.

Now, with many states strapped for cash, the idea that entrepreneurs might pay for new roads and bridges seems tempting. In Virginia, awarding the project to Toll Road Corp. has circumvented some nasty wrangling over tax increases. And Stanley, who is raising \$1 million in equity and \$110 million in debt through a Goldman, Sachs & Co. partnership, plans to open the road in December, 1991, about 15 months earlier than a rival plan put forward by the state. Once open, the road's keepers will charge commuters a stiff \$1.50 each way. Projections are for a \$900 million profit over the next 40 years. After that the state takes title to the road.

How many other states will follow Virginia's lead is unclear. In California, a new law authorizes companies to submit privately financed plans for up to four transportation projects. A proposed new bridge across San Francisco Bay is one possible candidate. Illinois and Missouri are studying the idea of private financing for a 425-mile, \$2.5 billion toll way from Chicago to Kansas City, though most experts are dubious about the project's prospects.

EMINENT DOMAIN. Indeed, it will be some time before Wall Street rules the road. For one thing, private companies don't have the power of eminent domain to take land. In Colorado, the Front Range Toll Road Co. has proposed a 200-mile, high-speed toll road from Pueblo north to Fort Collins, but piecing together the needed tracts would be an overwhelming task. "They'd have to talk to every farmer between Pueblo and Fort Collins," says Democratic State Senator Patricia H. Pascoe. In Virginia, Stanley had to realign the path of his road numerous times to accommodate homeowners concerned about highway noise. What saved him were the owners of large tracts of undeveloped land: They were eager for access to a highway.

Securing rights of way isn't the only headache facing roadbuilders. Toll Road Corp. had some tough negotiations to win the right to a 16% rate of return. Transportation departments don't enjoy giving up power. And drivers accustomed to the luxury of free interstate highways will balk at the idea of paying steep fees to make roads profitable.

Of course, local and state governments can always decide to tax their citizens more for badly needed new roads. But to politicians, raising taxes and winning elections don't mix. As an alternative to public spending, toll roads might point the way back to the future.

By Ron Stodghill II in Washington, with bureau reports

INFRASTRUCTURE

FIFTEEN MILES —THAT'LL BE \$1.50

Can for-profit roads fill the gap left by cash-strapped state governments?



AN EARLY AMERICAN TOLL ROAD: STATES MAY RETURN TO THE WAYS OF YORE

In Virginia's burgeoning Loudoun County, Ralph L. Stanley is the man of the hour—rush hour, that is.

Late in July, the state's Transportation Board gave Stanley's firm, Toll Road Corp. of Virginia, the green light to build a 15-mile, for-profit toll road between Washington's Dulles International Airport and Leesburg.

It's the first time in more than 30 years that Virginia has relaxed its monopoly on highway construction, and Stanley is hoping other states will follow. According to Stanley and his admirers, the Leesburg Toll Road will not just relieve rush-hour jams: It will cast in

concrete the Reagan doctrine of using private initiative to meet public needs. "What the U.S. needs is a prototype," says Stanley, who for 3½ years headed the Urban Mass Transportation Administration under President Reagan. "We're about to deliver it."

ROAD TO RICHES. Privately backed public works projects are hardly new. In Europe, a company called Eurotunnel is financing the construction of an \$11 billion rail tunnel linking Britain and France. And in the early days of the Republic, privately owned toll roads flourished. To encourage an alternative to these for-profit highways, a clause in

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EDITED BY HARRIS COLLINGWOOD

HOME SHOPPING'S DOUBLE WHAMMY

► Home Shopping Network's crumbling credibility suffered another blow on Aug. 2 when it lost its fraud case against GTE. A six-member jury not only ruled against HSN but also ordered the company and its two top officers to pay \$100 million in a libel counterclaim brought by GTE. Since filing suit in 1987, HSN has blamed its failure to meet sales projections on its GTE-supplied telephone equipment.

After a six-week trial, the jury deliberated less than five hours before siding with GTE. HSN, which says it plans to appeal, was ordered to pay \$20 million. HSN Chairman Roy Speer and President Lowell Paxson were each assessed \$40 million. They couldn't be reached for comment. GTE attorney James Carideo called the decision "a great victory."

WANG LOOKS FOR A BREATH OF FRESH CASH

► Wang Laboratories, sent reeling by a \$424 million loss in its latest fiscal year, has hired investment banks Lode-star Group and Salomon Brothers to help it raise capital and renegotiate credit agreements. The minicomputer maker may even enter into a first-ever marketing alliance with another company or seek an equity infusion. Wang, with almost \$400 million in short-term debt, says it wants to cut annual costs by \$200 million, which suggests that its Intecom telephone switch unit will go on the block. Another round of layoffs is also in the works.

A BID FOR PLESSEY GETS THE GO-AHEAD

► One of Europe's biggest and longest takeover dramas is in its last act. On Aug. 2, Britain's General Electric and West Germany's Siemens won

British government approval to resume their joint bid for Plessey, the British defense and telecommunications giant.

The two originally bid \$2.8 billion for Plessey last November, but they had to cease hostilities while the government studied the offer. To win the go-ahead, the bidders agreed to strict conditions, including restrictions on West German access to Plessey's military secrets. Even so, Siemens, if its new joint bid succeeds, would control Plessey's military communications and radar divisions. Plessey is expected to resist, but analysts think a higher offer from Siemens and General Electric will carry the day.

APPLYING TRIAGE TO TEXAS BANKING

► The reign of error in Texas banking continues, even after the FDIC on June 24 seized the last two major bank holding companies in the state, Texas American Bancshares and National Bancshares. BancTexas Group, which received its first slug of federal assistance in 1987, has asked the FDIC for more help. The bank, which held on to its problem-loan portfolio, is still bedeviled by the statewide weakness in energy and real estate.

NCNB has better news for the feds: It's buying the government's 51% share of NCNB Texas National, the remnants

'FRONT DESK? SOMEONE IS BANGING A GAVEL'

When a judge has a rendezvous with defendants in a hotel room, there's normally cause for suspicion. But since January, Los Angeles County has been booking some of its judges into a Santa Monica Holiday Inn along with lawyers, litigants, witnesses, and jurors. It's all part of an effort to relieve Santa Monica's crowded court system, which has only four courtrooms for the nearly 1,000 civil cases filed there every month.

It's not likely hotel guests will see any handcuffed felon hanging out by the pool or plotting a towel heist. So far, the Holiday Inn cases have been civil matters, heard by retired judges who collect \$450 a day from the county. The hotel suit itself costs up to \$250 a day—more if an additional room is needed for jury deliberations. The hotel throws in complimentary parking. But it draws the line at free continental breakfasts. Sorry, your honor.



of the failed First Republic Bank, and is poised to make more purchases in Texas.

MANISCHEWITZ: NO TOASTS FOR ITS SUITOR

► Leveraged buyouts are a lot like weddings, the president of Levine, Tessler, Leichtman was musing just a few weeks ago, after agreeing to buy kosher foodmaker B. Manischewitz for \$44.6 million in cash. "The bride kept getting prettier," said Lenard Tessler of the 10 months of match-making negotiations.

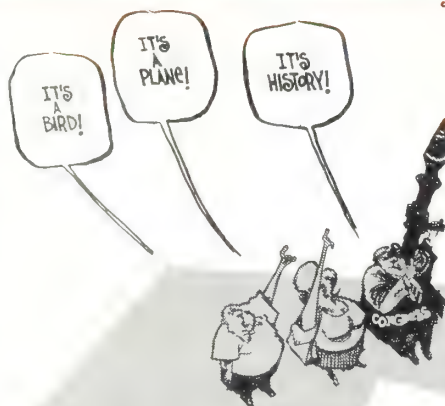
Alas, on July 31, the nuptials were called off. Now

Manischewitz and the Bever Hills buyout firm are arguing about who jilted whom, and the whole mess could end up in court. Levine Tessler, blaming the broken deal on new disclosures about a two-year federal grand jury investigation into possible antitrust violations in the kosher-food industry, is demanding a \$2 million cancellation fee. For its part, Manischewitz says the LBO firm backed out and isn't entitled to the payment.

AMAX IS BACK BIDDING AGAIN

► After slashing half its Amax work force and selling more than half its businesses, CEO Allen Born is back on the buy side. On Aug. 2, he bid \$2.4 billion in cash and paper for Canada's Falconbridge. The deal would land Amax right back in the business. Born had ditched earlier: nickel, copper, and zinc.

Wall Street, though, is worried that Amax' long-term debt, already equal to 50% of equity, may leave it unprepared for the next industry downturn. And Born may have to bump his bid. Canada's Noranda owns 27% of Falconbridge and could counter Amax.



CLEANED-UP WEAPONS PLANTS MAY MEAN FEWER WEAPONS

When Energy Secretary James D. Watkins unveiled his long-awaited plan for cleaning up the mess at the nation's nuclear weapons production facilities on Aug. 1, he got credit for a good start on a long-overdue effort. As in the case of this year's other massive cleanup, the cost out of the savings and loan insurance fund, the nastiest arguments will be less over what needs to be done than how to pay for it.

Watkins says the first six years of what's expected to be a five-year project will cost \$21 billion. Congress' General Accounting Office says that's optimistic. And there's no cash on hand to pay the bills. "Old Read-My-Lips down Pennsylvania Avenue has to figure out where the money is coming from," says Senator Timothy E. Wirth (D-Colo.).

Since building weapons caused the problem, liberals say the Pentagon should pay for the cleanup. Hours after Watkins presented his plan, the Senate defeated an attempt by Senator Carl M. Levin (D-Mich.) to help fund the cleanup by trimming funding for the MX missile. Noting that the Energy Dept.'s plans are all defense-related, Representative John M. Spratt Jr. (S.C.), a moderate, says the cost "will likely come out of [military] personnel and weapons systems."

BIG QUESTION. Defenders of the Pentagon budget are pursuing a two-pronged campaign. First, they are urging a go-slow approach that would attack only the worst problems immediately. And they would seek to hold down the cost by allowing government-owned plants to meet lower environmental standards than those imposed on private industry. The Senate has approved a proposal by Armed Services Committee Chairman Sam Nunn (D-Ga.) that could effectively delay some cleanup efforts until Congress receives the report of a blue-ribbon panel in 1991.

Some creativity will be needed to finesse this dispute. Watkins himself says: "There may be a more innovative way of funding this" than straightforward annual appropriations. Senator Brock Adams (D-Wash.) has introduced legislation that would pay for part of the cleanup by assessing a new surcharge fee on the commercial nuclear industry and other facilities

that buy radioactive materials from the Energy Dept. or that use government waste dumps.

But the big question facing the Adams plan and other financing schemes is whether the Administration will say they violate the President's "no new taxes" pledge. Ultimately, however, Bush may have to choose between new revenues or losing some cherished military spending.

By Vicky Cahan, with Dave Griffiths

THE DEMOCRATS GIVE LES ASPIN A BLOODY NOSE

Representative Les Aspin (D-Wis.) has spent six years trying to convince the world that House Democrats, too, favor a strong military. But the Armed Services Committee chairman will find it tough to reestablish his leadership—and his party's credibility—after House Democrats made a smoking ruin of Aspin's efforts to work with the Bush Administration on bipartisan defense policy.

Aspin was savaged by a combination of home-state interests and ideological politics during the House debate on the fiscal 1990 defense bill. First, the House defied Aspin and voted funding for two aircraft that both he and Defense Secretary Richard B. Cheney wanted to kill. When the voting came around to nuclear weapons, Democratic moderates, normally Aspin backers, led a successful surprise attack on the MX missile, cutting the funding requested by the Bush Administration in half. Angry Republicans then joined liberals to knock out funding for the mobile Midgetman missile, Aspin's pet project.

The frazzled chairman added insult to injury when he branded his colleagues' handiwork "a Michael Dukakis defense budget." That should give GOP strategists plenty of ammunition in the 1990 elections—and make it that much harder for Aspin to win back the respect of fellow Democrats.

By Dave Griffiths

PITIAL WRAPUP

THE PRESIDENCY

Watch for much more concerted efforts to mold George Bush's image. That's the main message in the placement of White House special activities director Stephen M. Studdert with Las Vegas image-maker Sig Roach. Studdert, who may run for office in Utah, was primarily a campaign advance man who concentrated on the details of Presidential appearances. Roach, a veteran of selling everything from politicians to casinos, plans to leave the detail work to his staff. He'll concentrate on tailoring the public impression made by a President who hasn't wanted to be seen working on

his image. Fortunately for Roach, he has plenty of time. A President whose popularity is riding at nearly 70% isn't in need of immediate image makeover.

MINIMUM WAGES

Battered Democrats are likely to make one more run at passing an increase in the minimum wage this year. Senator Edward M. Kennedy (D-Mass.) has been working quietly with the Democratic leadership to find a formula that President Bush, who vetoed an increase earlier in the year, can accept. Any compromise is likely to offer the Administration concessions on its demands for a training wage for young workers.

AVIATION

A major fight over revenues is building between Congress and the airline industry. But revenue-starved lawmakers are desperate, and the industry faces an uphill struggle to stop plans to raise \$1.3 billion in fiscal 1990. The biggest sources: diverting to the general fund half of the 8% ticket tax now earmarked for the aviation trust fund and doubling the \$3-a-head tax on international departures. An additional \$239 million would be raised by a new charge for landing rights at four of the nation's busiest airports: Chicago's O'Hare, Washington's National, and New York's LaGuardia and JFK.

CHINA



THE SHANGHAI CENTER:
INVESTORS ARE
SEEKING CONCESSIONS

WHO'S MINDING THE STORE IN CHINA?

The economy is bleeding, the government is in disarray—and foreign investors are in the dark

No less a figure than China's new Communist Party chief, Jiang Zemin, gave the red-carpet treatment to Texas real estate developer Trammell Crow in Beijing on July 29. Crow was there to discuss a possible deal to build a multimillion-dollar trade center in Shanghai. Jiang made much of previous meetings with Crow in Dallas and Beijing. "It's a fine Chinese tradition not to forget old friends," he said under the blaze of Chinese TV cameras.

Crow's arrival might suggest business as usual in the Chinese capital. That's an impression China's hardline leaders fervently wish to project. But, in fact, two months after the massacre of pro-democracy demonstrators in Tiananmen

Square, the country's economic problems are worsening as the political situation grows more confusing. Says one Western oil executive in Beijing: "I only see more uncertainty ahead." Crow, who has a long association with China, wasn't available to comment on his project.

EMPTY DESKS. The confusion is making foreign investors nervous. Beijing-based diplomats estimate that 30% of the representatives of U.S. companies have left the country since the June 4 crackdown. Many now operate with skeleton staffs. "It's not enough to say the open-door policy remains," says a Shanghai-based Western diplomat. "Burma and Laos say the same thing, but who invests there?"

Companies that pioneered successful

Sino-foreign joint ventures, or those with large investments in factories and hotels, are trying to keep their operations running on an even keel. "It's in our interest to stay at full capacity," says Terry Ginty, general manager of Shanghai Yaohua Pilkington Glass Co., a factory in which Britain's Pilkington Glass Co. holds a 12.5% interest. And with a ranking as a high priority for China's central planners, McDonnell Douglas Corp. is pushing ahead with negotiations to expand its role at the Shanghai Aircraft Manufacturing Factory from an assembler of planes to a full-fledged manufacturer.

Some foreign companies are attempting to extract concessions from the C-

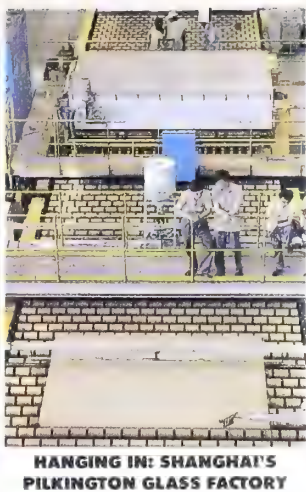
e for staying. The
up building the \$175
on Shanghai Center,
commercial and resi-
dential project of Atlan-
tic Portman Hotels,
American International
Corp., and the Japanese
construction company
Sumitomo, is pressing the
Chinese for tax breaks
and a lease extension.
One American lawyer
has been suing the com-
pany against expecting
much: "The Chinese
are promising sweet
deals, but they often
don't deliver."

Indeed, as Chinese
businessmen struggle for power in Beijing, the
economy is increasingly neglected. Raw
material shortages are worsening, prices
are rising, and important decisions are
being held. Politics is also moving into the
background. As they did during the Cultural
Revolution, China's leaders are requir-
ing workers to leave their jobs to attend
education classes. Associating with
foreigners is discouraged, and access to
Western periodicals for both foreign and
Chinese employees is being cut off.

RAW CULT? Bureaucrats in Shanghai,
China's main commercial center, confess
they are just as puzzled as foreigners
about the infighting in Beijing. Current-
party head Jiang and Prime Minister
Li Peng are viewed as the front men for
a tenuous alliance of elderly bureau-
crats. They include paramount leader
Jiang Xiaoping, General Yang Shangkun,
central planner Chen Yun, and security
overlord Peng Zhen. While the official
media portray Deng as being in
control, it has been unclear since June 4
how much power he retains.

Clearly there has been an internal
struggle. Deng and Yang have been al-
lied since the Long March, but both
Jiang and Peng have openly challenged
Deng's authority in recent years. Cur-
rent efforts to create a Deng cult by
broadcasting his tougher statements and
releasing a movie about his wartime
deeds raise the question of whether Deng
is really in charge or is being manipulat-
ed by others. Previously, Deng wanted
to part of a Mao-like personality cult.
The octogenarians are turning back
the political clock while keeping econom-
ic decision-making on hold. The aim now
is to suppress dissent, tighten the par-
ticle ideological control, and crack down
on private Chinese businesses and flour-
ishing rural industries, which were reli-
ant suppliers for foreign joint ventures.
New regulations say that even foreign
members of commerce must get party
approval of new members.

Little is being done to address China's
continuing economic ills. There are wide-



**HANGING IN: SHANGHAI'S
PILKINGTON GLASS FACTORY**

spread reports that farm-
ers are slaughtering live-
stock for market earlier
than usual in anticipation
of more upheaval. If al-
lowed to drift further,
China faces deepening
food shortages, strikes,
and even a crunch on for-
eign debt of some \$42 bil-
lion. Losses by state en-
terprises in the first half
of this year totaled \$1.86
billion, or more than the
whole of last year. Peng's tight-money poli-
cy—including payments
to farmers and state
workers in state bonds or

IOUs—reduced official inflation a bit.
But up to \$27 billion must be issued to
cover these debts, probably boosting in-
flation above 1988's unofficial estimate
of 35%. This month, even China's State
Statistical Bureau admitted continuing

difficulties. "Demand is greater than
supply, industrial structure is out of bal-
ance, efficiency is low, and agriculture is
weak," said spokesman Zhang Zhongji.

Meanwhile, China is hemorrhaging
foreign exchange. The country's trade
deficit reached \$5.7 billion in the first
half of this year, four times the total
during the same period in 1988. With
foreign exchange earnings from tourism
expected to decline by \$1 billion or more,
that figure will mushroom. Economists
say China should devalue its currency by
around 30% to reverse the trade deficit,
but hardliners are unlikely to heed such
advice because of political concerns.

The Chinese leaders' apparent indif-
ference to the deteriorating economy
frightens foreign investors. The govern-
ment will now have to offer more than
klieg lights and cheery propaganda to
convince them that China is a safe place
to do business.

*By Dinah Lee in Shanghai and Jasper
Becker in Beijing*

FRANCE

KICKING SAND IN CLUB MED'S FACE

It's threatened by low-cost competitors and a travel-industry shakeout



CLUB MED IN OPIO, FRANCE: AN ALLIANCE WILL HELP THE SWIM TOWARD 1992

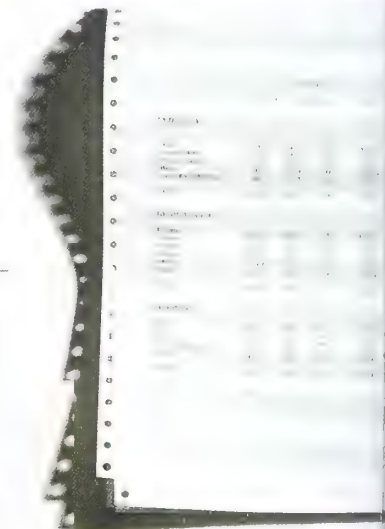
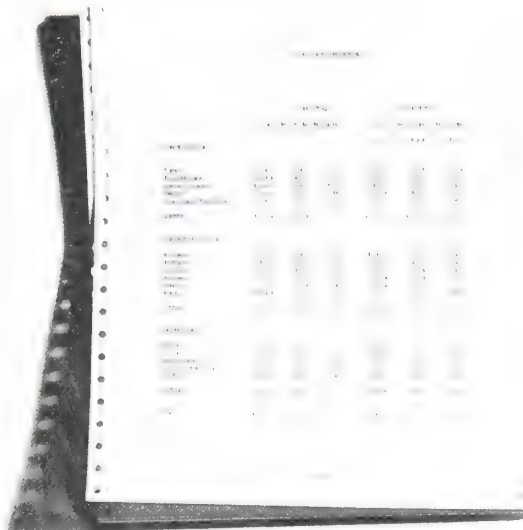
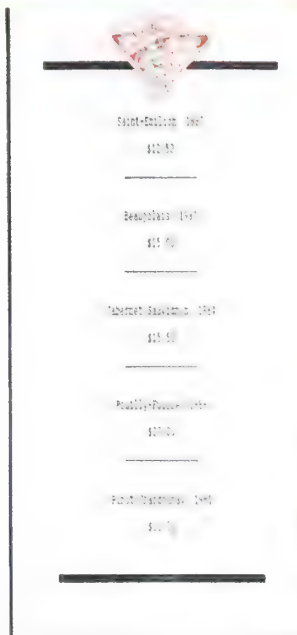
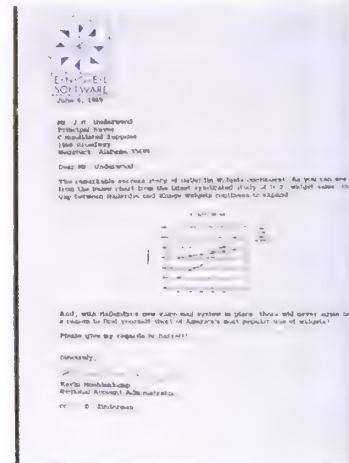
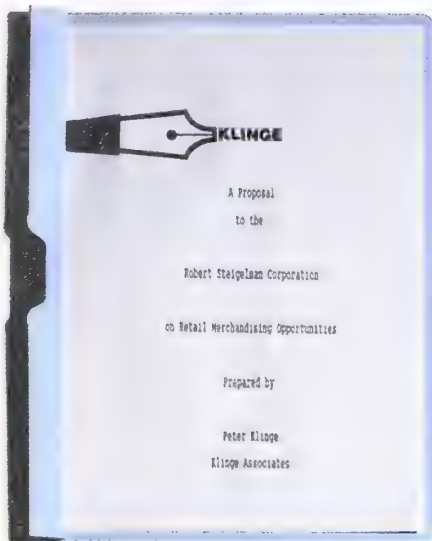
The poolside culture is as alluring as
ever, and the wine flows just as
freely. But as vacationers savor
the delights of Club Méditerranée vil-
lages this summer, executives at com-
pany headquarters in Paris are edgy. "Our
industry faces big disruptions," says Gil-
bert Trigano, chairman of Club Med.

A shakeout is looming as Europe low-
ers the barriers to travel competition in
the early 1990s. The outcome will deter-
mine who supplies a product that has

become one of Europe's inalienable hu-
man rights: the vacation trip. A unified
market after 1992 will encourage tour
operators to sell across borders. More
important, their charter airlines will be
allowed to pick up passengers anywhere
in the 12-country European Community
for the first time.

To get ready, the EC's vacation pack-
agers are rushing to cut costs and build
strategic alliances. In June, the biggest
West German package-tour company,

A family that will go to any length



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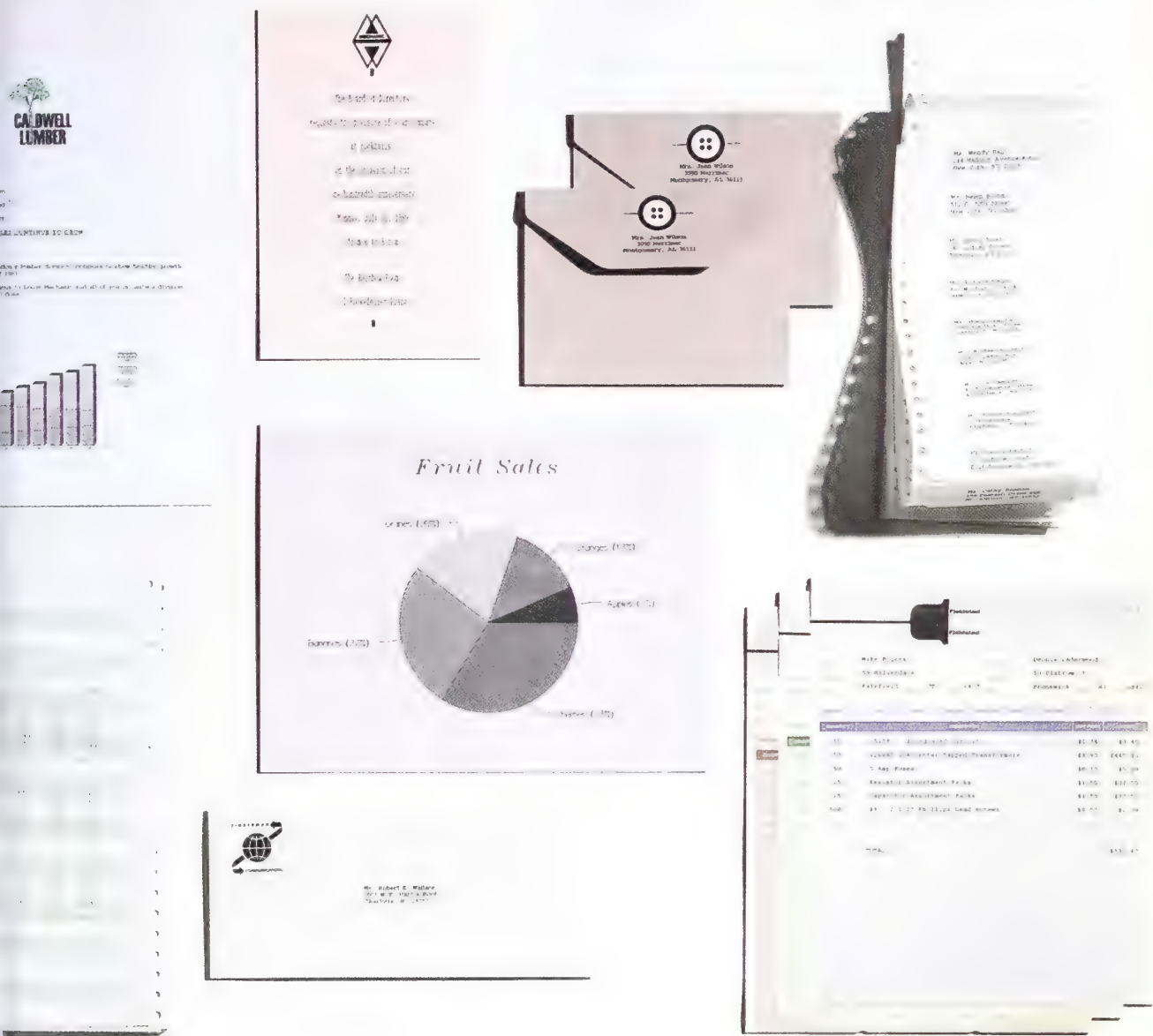
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but also can accommodate you with very impressive letter quality.

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TUI, bought 40% of Holland's top tour operator, ARKE. In July, TUI also acquired control of Robinson Club, a German vacation operator of which it previously owned 50%. Robinson aims to sell its Club Med-style vacations to the French through a Paris agency, Tour-opa, in which TUI has an interest.

In France, Club Med rival Club Aquarius teamed up with French tour operator Go Voyages in May. Their plan: to build vacation villages and add 21 planes to a four-plane charter airline now run by Aquarius. And earlier this year, Havas and Wagons Lits Tourisme merged their travel agency businesses.

Such alliances are particularly unsettling for Club Med. It pioneered the vacation village back in 1960, but German and French rivals now offer lower-cost imitations with fewer frills. Club Med's business also has been hurt by the growth of packaged-tour operators, which sell a flight, a room, and sometimes meals and sightseeing. Club Med's sales and earnings have been flat for two years, because of the weak dollar and troubles at its 74%-owned U.S. subsidiary, Club Med Inc. A hurricane plus construction delays on Mexican villages chopped the American unit's profit in half, to \$8.77 million, in the year ended Oct. 31. The parent company earned \$48 million that year, up 1.2% from the previous year on a 3% sales gain, to \$1 billion.

AIR LAUNCH? So Club Med is trying to build a firmer beachhead for 1992. Recently, it bought a 34% stake in Nouvelles Frontières Touraventure, a French vacation-flight marketer that also runs no-frills vacation villages. The two will build new villages and open retail outlets together. Now, they are trying to squeeze lower rates out of the airlines that haul their customers. If that fails, Club Med's Trigano vows they will start their own airline in a joint venture with an existing carrier. A leading candidate: Britain's Air Europe. "With mergers taking place all around, they had to do something," says Robert Azerad, an analyst for Prudential-Bache Securities Inc. in London. He thinks sharing costs will help profits grow—by 13% this year and 21% next year.

Further concentration is likely. "I expect a lot of mergers between now and 1992," says Joachim Hunold, marketing director of LTU-group, a Dusseldorf travel company. The good news for consumers is that price wars may break out among the new travel giants. Then, Europe's dedicated vacationers will face the problem of stretching their month-long holidays to take in all the action.

By Stewart Toy in Paris, with Mark Maremont in London and Heike Schneider in Bonn

BRITAIN

BRITISH TELECOM IS GETTING LESS BRITISH ALL THE TIME

Buying MD's data operations will help strengthen its global push

In coping with the tough new world of British deregulation, many of the nation's biggest companies have had no choice but to expand abroad—and few have been as aggressive as British Telecommunications PLC. BT's latest move came on July 31, when it agreed to pay \$355 million for McDonnell Douglas Corp.'s electronic data communications operations, including the sweetest part of the deal—Tymnet.

As the world's second-largest provider, after Telenet, of specialized links carrying electronic messages between com-

puters, Tymnet gives BT entrée into one of the fastest-growing areas of telecommunications. It's also BT's second big plunge into the U.S. this year. In a high-risk bet on mobile phones, BT paid a huge \$1.5 billion for 22% of McCaw Cellular Communications Inc. in January.

The two investments signal a shift in thinking at BT. Five years ago, the company wanted to be a top player in the merging worlds of computers and telecommunications. But purchasing Mitel Corp., a Canadian supplier of phone-equipment, almost proved disastrous. Now, BT is aiming at what it knows best: providing communications services. And it sees data communications and mobile phones as its best opportunities.

WELL-PLACED. Many of the deregulated U.S. phone companies seek the same horizons. But unlike the Baby Bells, BT is betting that it has an advantage because it's a European competitor that knows how to work with other phone companies on the Continent. BT officials figure other countries will soon start to license foreign businesses to compete against local state-owned monopolies. The goal: to stir up some competition. As the only European telecommunications company that has experienced serious competi-

tion, BT sees itself as well-suited to enter these markets. It's already in a consortium that's bidding for a mobile phone license in West Germany.

In Tymnet, BT is getting an established worldwide data network. One rival estimates that demand for Tymnet-type services is expanding at least 15% annually, as big companies increasingly transmit information via computer. "This is a business that's starting to take off now," says Anthony J. Booth, managing director of BT International. He will marry Tymnet with Dialcom

BT's electronic mail business, to lower transmission costs. Another plus: Tymnet holds 25% of one of Japan's leading computer networks.

In data communications, BT will be going head to head with such heavyweights as General Electric Information Services and General Motors' Electronic Data Systems unit. Some question if the company's management, which retains a civil-service mentality, is up to the task. Yet BT has little choice. At home, government regulators seem determined to shackle the

company in the interests of promoting competition. Although facing wage increases of about 10%, BT can raise prices by only 3.5%. The result: Analysts forecast BT's earnings will rise just 4% this year, compared with an average 14% over the past five years.

Unfortunately, Tymnet's estimated pretax profits of \$20 million to \$25 million will add less than 1% to BT's earnings, which came to \$4 billion last year. The McCaw investment could bring greater returns, but not until the mid-1990s. To be truly international, BT will need to spend even more of its money abroad—and soon.

By Mark Maremont in London, with bureau reports

BRITISH TELECOM'S BUYING BINGE

JANUARY, 1986 51% of Mitel

Corp., a Canadian maker of computerized phone exchanges, for \$251 million

MARCH, 1986 ITT Dialcom Inc., a leading U.S. electronic mail service, for about \$35 million

JULY, 1988 80% of Metrocast, a U.S. national paging system, for \$28 million

JANUARY, 1989 22% of McCaw Cellular Communications, a leading U.S. mobile phone operator, for \$1.5 billion

AUGUST, 1989 Tymnet and other McDonnell Douglas data communications operations for \$355 million

DATA: BRITISH TELECOMMUNICATIONS PLC, BW

How to get maximum output with minimum input.

Barbara Champney



It may seem like a business paradox, but sometimes less is more.

At least when it comes to adding paper and toner to the new Minolta EP 8600 high-volume copier. Its triple barrel toner capacity lets you produce up to 50,000 copies between refills. Or almost double that of any other machine in its class.

Now that's productivity. But it's just the beginning.

With its standard paper trays and optional large capacity tray, you can load up to 4000 sheets. And at 60 copies a minute, you'll get a lot more accomplished

An LED help screen accesses over 40 different messages solving virtually any copying problem at the touch of a button.

Minolta's Intelligent Commander makes time-consuming jobs easier. It's a self-contained editor and control panel that lets you program and store different operational sequences on a memory card.

Other innovative features in the EP 8600 include automatic duplexing, reduction (up to 61% of original) and enlargement (up to 164% of original), automatic paper selection/automatic magnification selection, and dual original copying for producing your own booklets.

If you want to get more out of work, the Minolta EP 8600 could be just the kind of input you've been looking for. So call 1-800-USA-DIAL, Ext. 777 for the Minolta dealer nearest you.



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There are some very good firms that specialize in utilization review. Firms that do nothing else. So it might be interesting to compare them to an organization you may not think of for this kind of help. Ours.

According to published reports,

It sets standards as high as



All 1,200 of our nurse reviewers have relevant clinical experience and receive training in communication skills. We also have over 1,000 physicians in a major specialties. So complicated cases and appeals can be resolved doctor to doctor.

you're likely to find for administration, staff, medical criteria and quality

Experts say you need a specialist for utilization review. We concur.

the largest of these companies serviced 11.5 million lives last year.

We serviced over 15 million.

Of the ten leaders, the biggest staff of nurse reviewers and doctors was 600. Ours totaled 2,200.

Numbers, we realize, don't say anything about the actual service you get. Or the kind of cost containment you can expect. That depends on how well the review system operates.

On its standards. The system in our case is Custom Care-USA. And as the name implies, it's national.

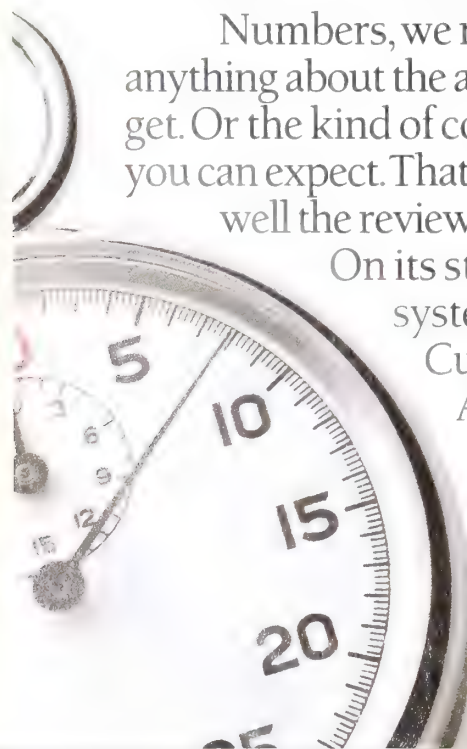
When someone calls for a review, they don't wait long for a response. We answer the phone within 30 seconds 90 percent of the time. We require reviews to be completed within one working day.

control. A case in point being the nurse reviewer.

How she does her job determines in large part how happy your employees are with the program. And how much it may save you from inappropriate medical care.

But nurses are used to communicating face to face. Not on the phone. And certainly not in the middle of complex, sensitive situations. A nurse reviewer can find herself in a situation that takes special training. Of the firms that offer training, none has a program as large or as intensive as Custom Care-USA.

We have enough nurses to complete 100 percent of reviews within one working day. Income



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the calls are answered within 30
onds 90 percent of the time even
ing peak periods. Written notifi-
on of review decisions is sent
thin two working days.

If a second opinion is required,
re's a ready solution: A national

should only use ization review.

*When Custom Care-USA
reports results, they're not
just estimates or projections.
We pay the claims so we
can tell you exactly what
happened and how much
you're saving.*

panel of 36,000
board-certified
physicians. We
can quickly help
your employees
locate the doctor
needed anywhere in the
country by specialty, sub-
specialty, hospital affiliation and
in special languages.

What your program consists
s up to you. Custom Care-USA
flexible. You can unbundle down
basic components. Or add more
specialized services like psychiatric
substance abuse review.

One especially effective tool is
something we call Individual Case
management. Managing the care of
h-cost cases can provide savings
7 to \$10 for every dollar spent.

But to do that it's much better
if you can manage things locally.
Where you can monitor the patient,
negotiate with providers and make
arrangements first-hand. Not by long
distance. Custom Care-USA can give
you and your employees that advan-

tage—using qualified case managers
in local Plans around the country.

We're also in a much better
position to evaluate results. Because
we pay the claims. We don't report
only what should have happened but
what actually did. Which
is why our Management
Reports can even suggest
where and how you
could be saving more.

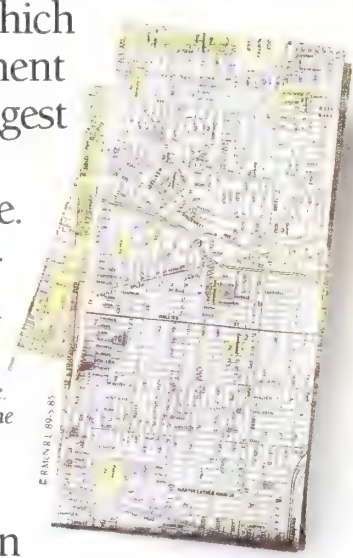
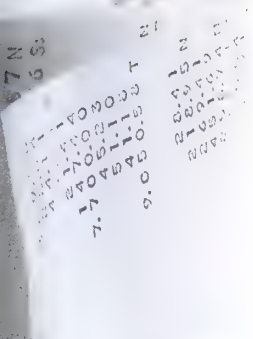
So if your com-
pany has a thousand

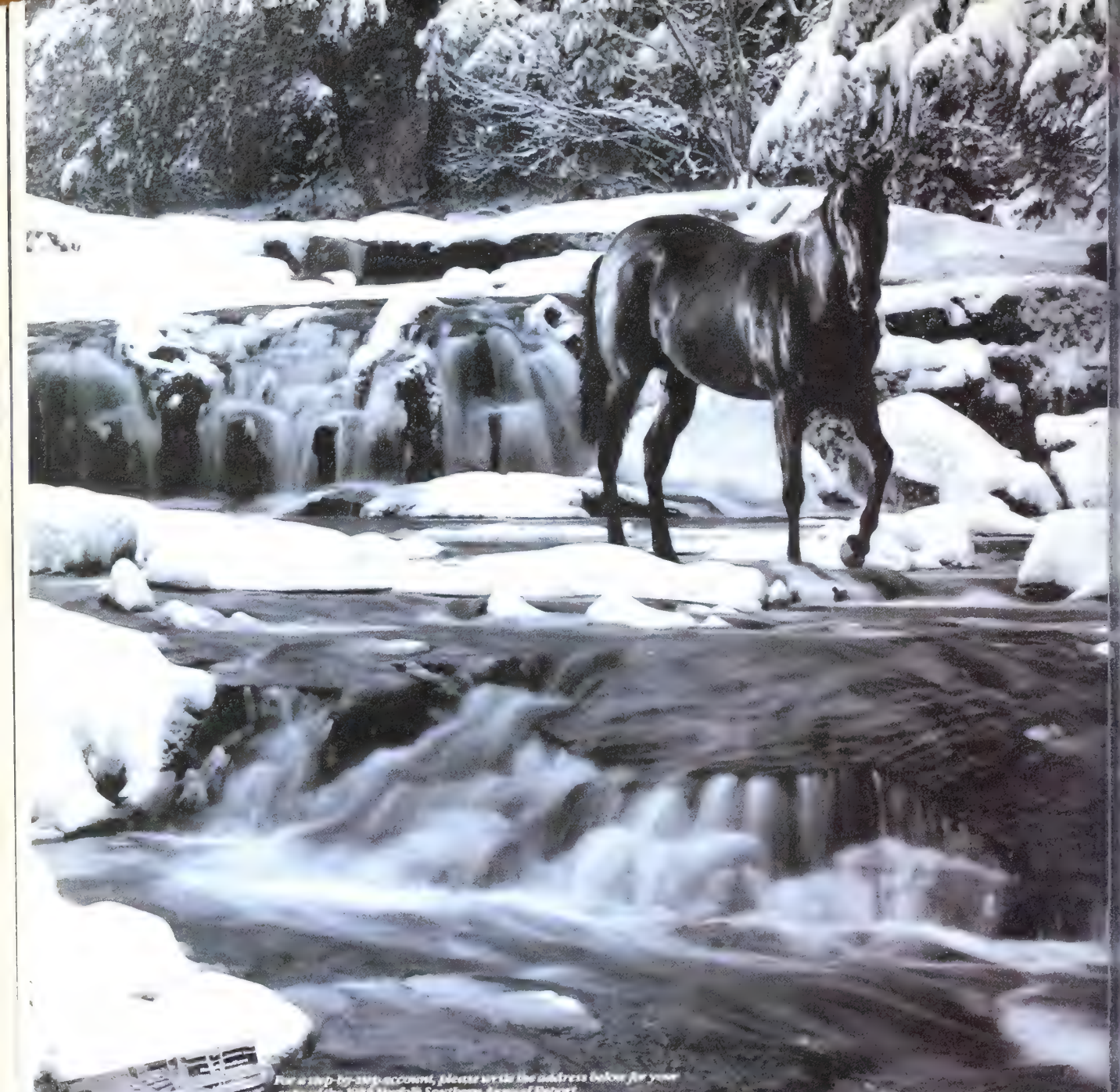
*In the management of high-cost cases,
long distance isn't as good as being there.
Our Individual Case Management is done
on-site. No one gives you better access to
local providers or more leverage in
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more than one state, and you're
looking for a specialist in utilization
review, call 1-800-552-2583. Utilization
review may not be the only thing we
do. But then again,
that's why we
can do it so well.

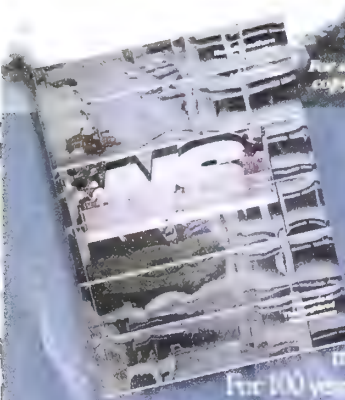


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SURE-FOOTED.

When the winds of change stir the economy, a corporation can maintain its momentum if it measures each step carefully.

For 100 years, in even the most unsettling conditions, The Thoroughbred and its predecessor companies have done more than just keep their balance. In 1983, the nation's most efficient major railroad system adjacently moved on to new, higher ground.

It was a record year. Increases in traffic, higher

revenue yields and cost reductions resulted in net income of \$635 million. With revenues of over \$4 billion and assets of over \$10 billion, Norfolk Southern stands on very solid footing. The Thoroughbred's marketing flexibility and aggressive capital improvements program position it firmly for the future.

Clearly, management can negotiate changing terrain and still stay a step ahead.

**NS****NORFOLK
SOUTHERN**

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WOULD A SOCIALIST JAPAN BE THE SAME OLD JAPAN?

If there's ever a socialist government in Japan," baseball legend Shigeo Nagashima once quipped, "pro baseball will disappear." As pillars of the established order, he seemed to imply, the national sport and the long-ruling Liberal Democratic Party stand or fall together.

That may no longer be true. Baseball is doing fine, but the country is in trouble, and what was until recently unthinkable, a socialist-led Japan, could happen. The LDP could lose the coming election for the Diet's powerful lower house, following its defeat by the Japan Socialist Party last month in the upper house. That might set the stage for Japan's first opposition coalition government, led by the Socialists. "Japan is now in uncharted waters," remarks Princeton University political scientist Kent E. Calder.

WITH MOVEMENT. In previous years, despite losing its lower-house majority three times, the LDP kept control by absorbing independent Diet members. The LDP also expanded welfare policies to benefit and win over opposition voters. "In the past, the LDP has made up for its losses by incorporating social groups that have been hurt," says Kyoto University's Takashi Inoguchi. "But this time, I'm not quite sure they can do that."

That's because it will be difficult for any government to reverse the liberalization of agricultural imports, which has alienated a key bloc of LDP supporters, Japan's farmers. It will also be hard to drop the new, widely reviled consumption tax because it is needed to help pay for costly social welfare programs for Japan's rapidly aging society. And it won't be easy to reform a corrupt political system that alienates voters. The LDP politicians whose sexcapades infuriate increasingly assertive women voters can't be made into saints overnight.

Voters appear to want a young, fresh Prime Minister. But whether the LDP will offer such a candidate is highly uncertain. Some LDP bosses are maneuvering to name an old-guard politician, such as faction chief Toshio Komoto, 78, as interim

party president and Prime Minister on Aug. 8. He would step down after the next lower-house election, expected by yearend, to make way for yet another LDP veteran. But younger LDP politicians, who will vote by secret ballot for the first time, may throw the party election to Toshiaki Kaifu, 58, a former Education Minister who was untainted by the Recruit Co. bribery scandal. Another possible contender as the Aug. 5 nomination deadline neared was Ryutaro Hashimoto, 52, the telegenic LDP general secretary, who could be the party's strongest vote-getter.

None of the LDP choices for its leader would mean a significant change in domestic policies. Voters want the consumption tax killed and action to narrow the growing disparity in distribution of wealth, but last month's protest votes for Socialists don't mean they want rapid change.

The Socialist leader, Takako Doi, is popular, but many of her party's platform planks are not. Few Japanese want major changes in the U.S.-Japan Mutual Security Treaty, for example, or policies that favor North Korea over South Korea. On the other hand, the LDP's blunders lessen many voters' worries about the Socialists' inexperience in governing.

A Socialist-led government could turn Japan more protectionist, especially in agriculture. Doi says Japan should become more self-sufficient in food. But in an interview, she emphasized that continuity in government is important. "Our position as a government would inevitably be different than as an opposition party," she says, observing that compromises with coalition partners would also slow change.

The struggles of old-fashioned politicians to adjust to a more modern Japanese society are likely to keep the country adrift for some time. For the U.S., which needs strong political leadership in Tokyo to cope with trade tensions and other issues, that's not a welcome prospect. Washington would like to see a heavy hitter step up to the plate.

By Robert Neff, with William J. Holstein, in Tokyo



TAKAKO DOI

DEAL WRAPUP

POLAND

The Communist Party is reshaping itself to try to gain new credibility among Poles and head off defections. For starters, the party on July 29 released five of nine Central Committee secretaries with young reformers. But it faces hard lessons in democratic politics. The Peasant Party, formerly a close ally, balked at the Communists' proposal to name Interior Minister Leslaw Kiszczak as Prime Minister. Kiszczak is widely resented for his role in the imposition of martial law in 1981. The party's new General Secretary, outgoing Prime Minister Mieczyslaw F. Rakowski, bears the added political

onus of having ended food price controls on Aug. 1. The unpopular action boosted prices of some foods by 400%.

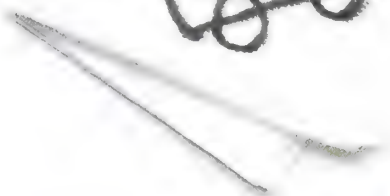
Such price hikes are needed, however, to shift Poland toward a market economy. Accordingly, Western aid donors are doing little to dampen the price spiral. The first food shipments under a \$120 million European Community relief package won't reach Polish store shelves until late September.

To ensure that Poland carries out its reforms, the U.S. is also moving deliberately to disburse the \$100 million pledged by President Bush to spur private business. A U.S.-Polish board may take up to a year to start converting the money into tangible ventures.

CHILE

The parties that blocked last year's bid by President Augusto Pinochet to prolong his rule appear headed for another victory in the Dec. 14 presidential election. Patricio Aylwin, 70, the candidate of a 17-party coalition, has a solid lead in polls over former Finance Minister Hernán Büchi, 40, the government's choice and the man widely credited with Chile's economic success. Backers privately admit that Büchi has little chance of winning. Constitutional changes approved in a July 30 referendum halve the next President's term to four years and curb the wide executive powers that Pinochet has wielded.

Anyone can have a great idea. Make sure everyone else thinks it's a great idea.



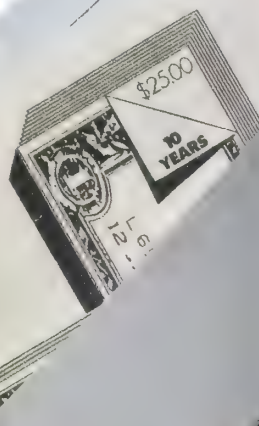
The difference between an idea and an idea that sells can be a Macintosh IIcx computer, an Apple Scanner and a LaserWriter printer.

RETURN ON INVESTMENT

Break even on the Helocar is anticipated in the first six months. More amazingly, return on original investment will reach 80% in the first year.

This phenomenal growth will be primarily due to the LA and NY regions where demand for a higher quality of life will be the greatest.

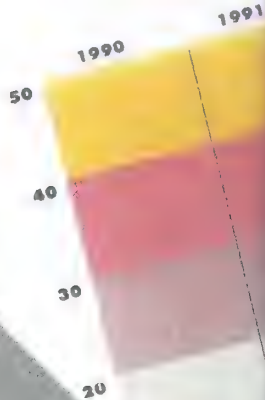
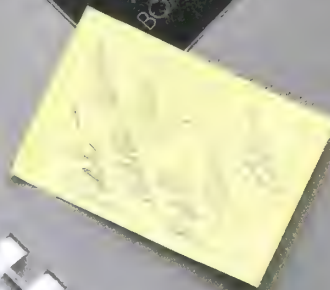
By year 10, even more return will be realized.



THE HELOCAR



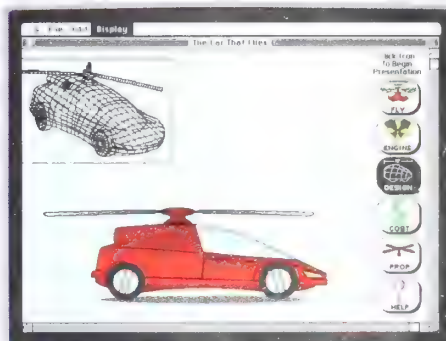
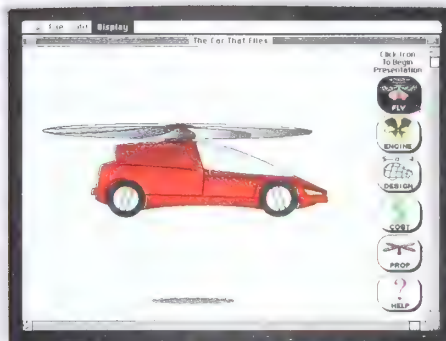
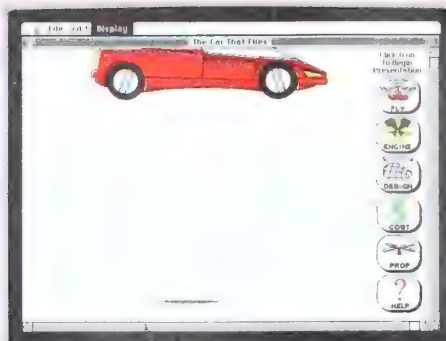
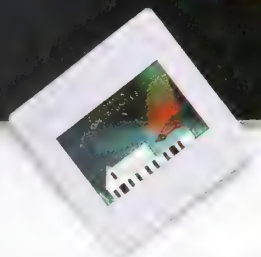
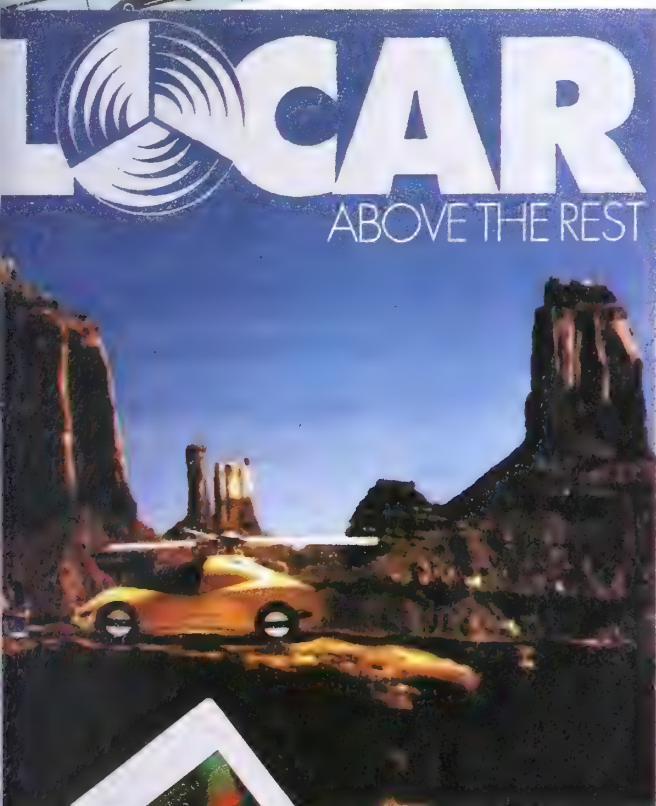
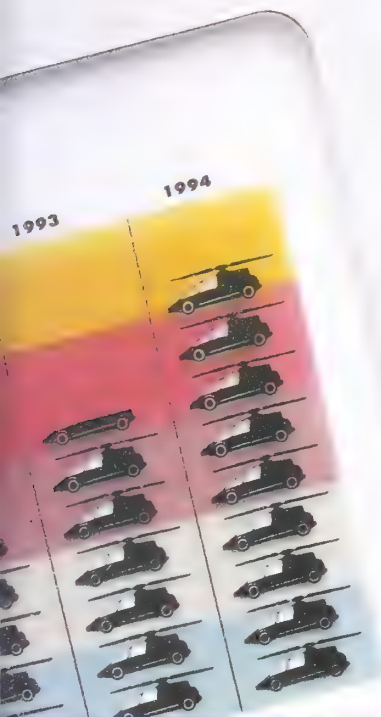
A PROPOSAL TO THE BOARD OF DIRECTORS



Prepared by Ben

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AMERICAN CABLE IS LASSOING FOREIGN MARKETS

The latest coup: U.S. West's huge Hong Kong franchise

Chief Executive Jack A. MacAllister of U.S. West was getting ready for bed on July 31 when he received an urgent call from Hong Kong. It was good news: A consortium that includes the Denver-based Baby Bell had just been awarded the world's largest cable television franchise, covering 1.5 million homes in the Chinese territory. With properties in Britain, France, and now Hong Kong, U.S. West will become one of the globe's most formidable cable operators.

For the U.S. cable industry, it could be bad news. Operators here are sweating over the possibility that the Baby Bells will persuade Congress to drop the rules that prevent them from combining telephone and cable services. The regional phone companies that are competing for the cable business overseas—including Pacific Telesis Group—would be in an enviable position should they finally be allowed to compete in the U.S. In Hong Kong, U.S. West and its partners plan to spend \$500 million to build one of the world's most advanced cable sys-

tems—one that will handle fax and videotext transmissions as well as TV.

What's more, the Hong Kong news should confirm the growing belief among the large cable franchise owners that it's time to look overseas for new business opportunities. As the U.S. cable business matures, several major operators have begun to take enormous risks to establish themselves in the countries in Europe and Asia where cable is still in its infancy. Companies are spending billions and adding to their already hefty debts, to build systems and wage marketing campaigns.

STARVING FOR TV. Even the cheerleaders for overseas expansion say that the cable operators will have to wait at least seven years before they start making money. But that projection may be overly optimistic. Several rich markets are effectively closed to U.S. companies, including Japan and West Germany. Local utilities control the business in several countries including Belgium and the Netherlands. And American operators have to jump several hurdles in some of

the countries that are open for business: Cable providers face serious competition in much of Europe from programmers who beam TV shows via satellite directly to viewers' homes. And some governments regulate cable rates, making it difficult for operators to recoup their outlays.

Still, the large cable companies say their international investments could eventually pay off in a big way. The second-biggest cable company in the U.S., Time Warner Inc.'s American Television & Communications Corp., wants to build cable systems in Britain, Ireland, and France. And United Artists Entertainment Co., which is 54%-owned by industry leader Tele-Communications Inc., is spending more than \$1 billion with its partners to develop franchises in Israel, Sweden, Norway, and Britain. To help finance its construction costs in Britain, United is negotiating a possible sale of operations in Sweden, Norway, and Israel to United International Holdings Inc., a new company formed by Chairman Gene W. Schneider.

The Baby Bells also believe that their overseas investments make sense even if Congress keeps the existing restrictions on combining cable and telephone systems. U.S. West, for one, is hell-bent on becoming one of the world's largest cable-TV players. "The business potential is enormous," says Reynie Ortiz, president of U.S. West International. Indeed, he predicts that in a few years his overseas operation will make hundreds of millions in annual revenues.



BREAKING GROUND IN LONDON: CABLE FACES TOUGH COMPETITION FROM SATELLITE

FOR U.S. CABLE OPERATORS: TOMORROW, THE WORLD

AMERICAN TELEVISION & COMMUNICATIONS

Time Warner's cable subsidiary is concentrating its efforts in Britain, Ireland, and France

COX CABLE COMMUNICATIONS

The Atlanta-based cable operator owns half of Denmark's largest cable company

PACIFIC TELESIS

The Baby Bell has franchises in Britain and seeks to expand in Ireland

UNITED ARTISTS ENTERTAINMENT

A subsidiary of U.S. cable leader Tele-Communications, UA is spending heavily to build its franchises in Israel, Norway, Sweden, and Britain

U. S. WEST

The telephone company belongs to a consortium that just won the world's largest cable franchise—Hong Kong. Separately, the company has interests in Britain and France

after years of resistance, some coun-
s are beginning to welcome Ameri-
cable providers. Nowhere is the shift
attitude more dramatic than in Brit-
By 1991, the government is likely to
p the rules that prevent foreigners
m owning a majority stake in the na-
's cable companies. The U.S.-based
panies get around current restric-
s by doing business through British-
trusts in the Channel Islands. The
gressive efforts that American compa-
s are making to build in Britain could
h cable penetration from 1.3% of all
nes to the low-30% range in five
rs, some industry executives hope.

Operators are moving fast in Britain
keep their lead in the competition with
ellite TV. Thus far viewers haven't
hed out to pay \$425 for a dish, and
go cable. One of the more savvy pro-
ters of satellite TV, Rupert Murdoch,
hedging his bets. Murdoch, who plans
spend \$825 million in the next several
rs to build and market his Sky Televi-
n operation, is also beaming his pro-
ms to cable systems. Another satel-
company, British Satellite
roadcasting, has its own problems: BSB
raised \$685 million so far but must
se \$648 million more to launch its
r-channel service by next spring.

ATTLE FOR BRITAIN. Cable companies
throwing a lot of cash into their
tle for the hearts, minds, and TV
eens of British viewers. Operators
unusually high construction bills be-
se Britain requires all cable to be laid
lterground. This makes it at least 50%
re expensive than in some areas of
U.S., where cable operators can
ng the wire on telephone poles. And
le franchise owners are starting to
ge elaborate sales campaigns to coax
scribers. Fewer than 20% of the po-
tial customers in Britain actually sub-
be to cable services when they are
ilable, and analysts say companies
ally need a penetration rate of more
n 40% to make money.

Some skeptics say U.S. operators will
ret their decision to invest so much
rseas. They point to Cox Communica-
s Inc.'s 13 disappointing years in
mark, where the company owns 50%
Stofa, the country's largest cable sys-
t. Although Stofa signed up nearly
of the homes in the areas it serves,
ernment-imposed rate restrictions
e prevented it from being a success.
is not very profitable," acknowledges
us Kroeger, director of international
rations for Cox.

Several executives say Cox's experi-
e was unusual. Denmark has very
gh restrictions. Cox, for its part, re-
ms gun-shy about making other in-
tments abroad. "We're always on the
out," says Kroeger, "but so far
hing has swept us away."

Still, some cable companies are al-
ready beginning to look at new foreign
markets, including Australia, South Ko-
rea, and Spain. UA's Kovacs—who es-
caped from communist Hungary in 1972
by fleeing to Yugoslavia and then swim-
ming to Italy—is even dreaming of the
day when Eastern Europe might open
itself up to cable. "We'll have to expand

at a manageable pace," he says. But like
many of his colleagues in the industry,
Kovacs is convinced that the TV technol-
ogy that has already conquered the U.S.
will take over most of the rest of the
world as well.

*By William C. Symonds in Denver, with
Richard A. Melcher in London and bureau
reports*

ESPN IS PLAYING IN AN INTERNATIONAL ARENA NOW

Early next year, Japanese sports
fans will be able to experience
the thrill of victory or the agony
of defeat on television 24 hours a day.
In a deal about to be signed, the coun-
try will get its first all-sports cable
service, Japan Sports Channel Plan-
ning Inc. And much of its program-
ming will come from ESPN Inc.—the
U.S. sports channel that has helped to
turn billiards and Australian football
into nationally watched events. The
Bristol (Conn.) cable channel will own
40% of Japan Sports Channel in a joint
venture with C. Itoh & Co. and other
investors.

The move into Japan is a part of
President and Chief Executive Roger
L. Werner's strategy to
make ESPN as important
a presence in sports pro-
gramming overseas as it
is in the U.S. ESPN,
which is 80%-owned by
Capital Cities/ABC Inc.,
wants to win the broad-
cast rights for sports
events in different countries and then
sell these programs around the globe.
Werner has his work cut out for him:
There's a lot of competition for the TV
rights to major sports events overseas,
and many international services are
still struggling to make a profit.

DIFFERENT STROKES. ESPN needs to ex-
pand its vistas, however. Several cable
programmers are moving in on its turf
in the U.S.—including regional ser-
vices linked to NBC Inc. and Turner
Broadcasting System Inc. ESPN has re-
sponded by paying top dollar for the
broadcast rights to major sports events
such as National Football League con-
tests. In January, ESPN shelled out
\$400 million for a four-year package of
major league baseball games. These
new expenses may end the years of
phenomenal growth at ESPN, which
should make \$115 million in operating
cash flow on \$307 million in sales this
year, according to industry analyst
Paul Kagan Associates. With cable
growth slowing in the U.S., the net-

work believes it has to look overseas.
Werner says ESPN could make as much
as 15% of its revenues from abroad in
a few years, up from 3% today.

ESPN is moving quickly to build its
international business. Late last year,
it paid \$8.25 million to increase its
stake in a British-based pan-European
cable network, Screensport, to 25%
from 5%. Screensport is in the red but
growing fast: It now reaches 3 million
homes and expects to be in 5 million by
yearend, thanks to its heady growth in
Germany, Spain, and Switzerland. ESPN
is also finding new viewers in Latin
America. In March, it began beaming
sports programs via satellite to broad-
cast services south of the border. The

company offers foreign
viewers a variety of
events that are already
familiar to U.S. sports
fans: It beams National
Hockey League games,
seniors golf, major ten-
nis matches, and NCAA
basketball.

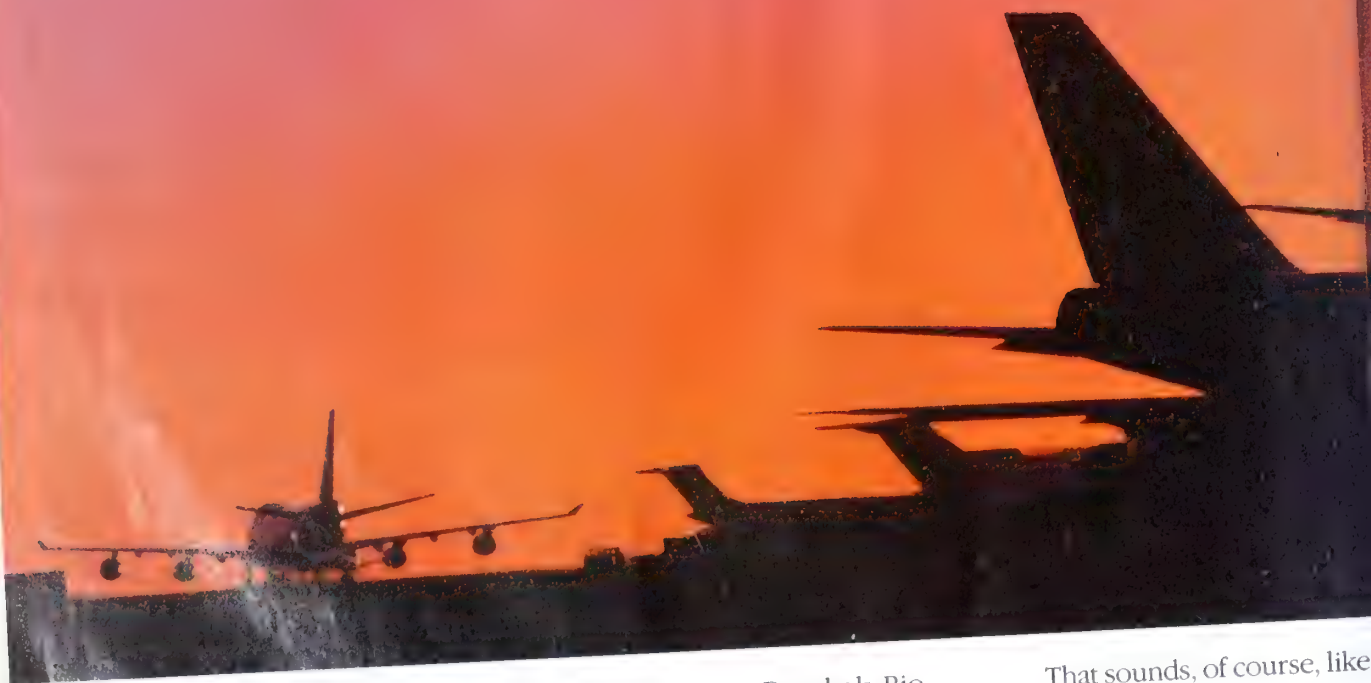
ESPN knows it can't simply add multi-
lingual announcers to its U.S. pro-
gramming. Some events just don't click
with overseas audiences. American
football, for example, bombed in Japan.
Werner thinks ESPN can succeed by
mixing and matching its sports pro-
grams to accommodate the tastes in
different countries. ESPN is also trying
to balance its sales among foreign ca-
ble programmers, over-the-air televi-
sion networks, and satellite services.
The company considers it too risky to
sell all of its programs through any
one technology.

Werner is hoping that his explora-
tions abroad will turn up an unusual
event that costs little to buy and that
could grab the world's imagination. He
says: "We are looking for the next
America's Cup, the next all-female as-
sault on Mount Everest, the first guy
to run the Yangtze River." In the
meantime, anyone for tennis?

*By Resa W. King in Bristol, Conn.,
with Richard A. Melcher in London*

It's winning sports
fans in Mexico,
Europe, and Japan

This year, Boeing jetliners
will carry more people than live
in the world's 100 largest cities.



Boeing jetliners will carry the equivalent of 12% of the world's population this year.

That's more people than live in Tokyo. New York. London. Beijing.

Mexico City. Paris. Bangkok. Rio. Sydney. Cairo. And nearly a hundred other major cities.

The actual number of passengers will be about 675 million.

That sounds, of course, like unbelievably large number.

But when you consider that Boeing airplanes take off or land about a million times a month,



unbelievably large number becomes
largely believable.

Boeing. We don't just deliver a
lot of airplanes. We deliver a lot of
people.

BOEING

SHAKING UP DETROIT

HOW JAPANESE CARMAKERS ARE BEATING THE BIG THREE ON THEIR OWN TURF

American firms learn fastest not through reading books or gathering intelligence overseas but by being directly confronted with a competitor performing at a much higher level using American employees in America.

—*Made in America: Regaining the Productive Edge*, MIT Commission on Industrial Productivity

Amid cornfields southeast of Lafayette, Ind., young Hoosiers are building the Subaru Legacy in a brand-new factory. Workers fresh off the farms are assembling Toyota Camrys in Georgetown, Ky., where men in bib overalls chat on the

courthouse steps. In the tiny village of East Liberty, Ohio, newly hired trainees are learning to build Honda Civics at the most recent addition to Honda's manufacturing complex in nearby Marysville.

Here lies America's industrial battleground of the 1990s. In these and other semirural towns of the Midwest and Canada, Japanese carmakers have set up 10 plants, including some of the most efficient, most automated, and least unionized auto plants in North America (map). With superb planning and a synergistic mixture of technology and pro-

ductive labor, the Japanese intend to slice a giant chunk out of the Big Three's U.S. and Canadian markets. So far, they're beating the Americans on their own turf. The Big Three will suffer most from transplant production. D. McGraw-Hill predicts that every three autos made by the transplants will displace one import—and two Detroit entrants.

The Japanese invasion represents a great deal more than a marketing problem for General Motors, Ford, and Chrysler. It's penetrating the very heart

JAPANESE AUTO PLANTS IN THE U.S. AND CANADA

Parent	Production started	Planned yearly capacity	Planned employment
1. TOYOTA MOTOR (50%) & GENERAL MOTORS (50%)	12/84	300,000	3,400
Taught GM that management, not high tech, is key to efficient production. Toyota learned it could live with U. S. unions and suppliers. But Nova and Prizm sales hurt by GM's marketing blunder.			
2. SUZUKI MOTOR (50%) & GM OF CANADA (50%)	4/89	200,000	2,000
Produces small cars and off-road vehicles for GM. The militant Canadian Auto Workers granted flexible work rules so that Suzuki could use its management system.			
3. TOYOTA MOTOR	11/88	50,000	1,000
Low-volume production of Corolla means lots of handwork, few robots. Toyota plans to export 30,000 sedans a year to U.S.			
4. HONDA MOTOR	11/86	80,000	800
Builds Accords and Civics. Honda wants productivity to match Marysville's, at one-fourth the volume. If it can reach that goal, the plant would rewrite the book on assembly plant size.			
5. MAZDA MOTOR	9/87	240,000	3,400
Lured to Detroit's front yard by UAW's promises of cooperation. Ford owns 25% of Mazda but keeps hands off, and 80% of cars produced are Ford Probes, 20% Mazdas.			
6. MITSUBISHI MOTOR (50%) & CHRYSLER MOTORS (50%)	9/88	240,000	2,500
A robot wonderland, it's the world's most advanced assembly plant, say experts. Produces Plymouth Lasers and Mitsubishi Eclipses.			
7. FUJI HEAVY INDUSTRIES (51%) & ISUZU MOTORS (49%)	9/89	120,000	1,200
Initial plan was to build Isuzu trucks and Subaru cars on same assembly line. But the strategy hasn't jelled. Plant now has two purchasing departments and separate final assembly lines.			
8. HONDA MOTOR	11/82	510,000	8,000
Highly reliant on American market, Honda built this complex to fit global strategy. In 1991, 27% of the company's worldwide capacity will be here. Plant now exports to Japan.			
9. NISSAN MOTOR	6/83	440,000	5,100
Run by anti-union American managers, with fewer than 10 Japanese nationals on-site. Began building pickups, now also makes Sentras on same line. Will double capacity by 1992.			
10. TOYOTA MOTOR	7/88	200,000	3,100
No fan of leading-edge technology, Toyota minimized risks by cloning its plant in Japan. It has no untested technology, relatively few robots, and builds a proven Camry.			

NEW UNITED MOTOR MFG. FREMONT, CALIF.

the domestic industry, challenging managerial mindsets and traditional, obsolete, relations between producers and suppliers, management and labor. Since the turn of the century, Detroit auto makers have run the entire production show. Detroit dictated the industry's auto-making technology, developed a labor-relations strategy, and drew into its orbit thousands of suppliers dedicated to stamping, welding, and grinding metal. If you thought cars, you thought Detroit.

CHRYSLER CUTS. No longer. The signs at Detroit must embrace radical reforms are compelling. Since the 1940s, Big Three and the United Auto Workers have lived together fairly comfortably in an industrywide culture of adversary bargaining. But on July 26, workers at Nissan Motor Manufacturing Corp.'s plant in Smyrna, Tenn., rejected union by more than a 2-to-1 vote. The overwhelming margin of victory. Nissan's antiunion management signaled the arrival of a competitive, non-union culture that strongly threatens UAW's grip on production in the U.S. (page 77). On July 27,

Chrysler Chairman Lee A. Iacocca announced plans to cut 2,300 white-collar workers as part of a \$1 billion belt-tightening package. This is only a forerunner of what's to come. The Japanese transplants' compacts, sporty cars, and trucks are targeted at segments where Chrysler is most dependent for sales. Iacocca also doubled Chrysler's rebates on cars, and Ford Motor Co. responded on Aug. 1 with rebates of at least \$1,000 on every Lincoln and Mercury car it sells.

General Motors Corp., which is operating only at 75% to 80% of capacity, is even more vulnerable than Chrysler and Ford. Auto analysts say it must phase out the equivalent of four assembly plants. "The competition is going to be fierce," warns GM President Robert C. Stempel. "If you thought it was tough this year, you ain't seen nothing yet."

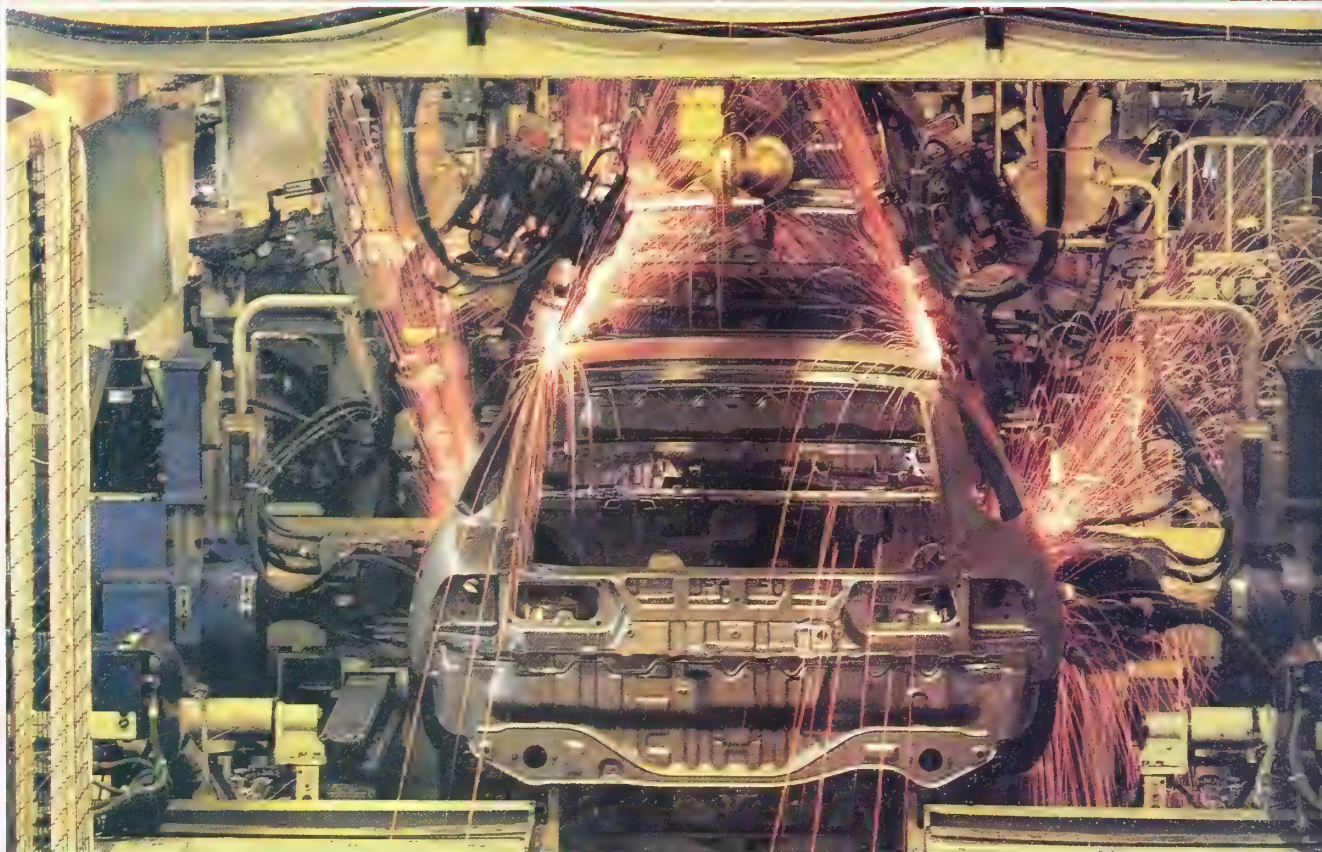
Stempel was referring to a long-gathering overcapacity problem that now looms directly over Detroit. With six new plants opening in the past year alone, the transplants have significantly increased the supply of cars and trucks in the North American market. U.S. capacity next year will exceed demand

by 2.7 million vehicles—and the surplus could rise above 3 million by 1994 (chart, page 76). Ignoring the current sales slump, the Japanese plan to boost U.S. production 41% in the fourth quarter, even as General Motors, Ford, and Chrysler cut their output by 18%. Indeed, in the first half of 1989, Japanese transplants built 14.7% of the passenger cars produced in the U.S., up from 8.9% only two years ago (chart, page 78). In addition, Korea's Hyundai Motor Co. soon will be producing 100,000 cars a year in Quebec.

MIDWEST GAINS. The new factories will enable the Asian auto companies to boost sales regardless of quotas, tariffs, or currency swings. Take this year: Japanese car imports were off 3.6% in the first six months. But surging transplant production has pushed sales of popular Japanese nameplates up 5.5% in a weak market. Much of the gain is in the Midwestern states, traditionally Detroit strongholds, but now home of the transplants.

It wasn't supposed to work this way. When the Big Three and the UAW pressured the Japanese early in the 1980s to build cars in America with union labor, man-





DIAMOND-STAR MOTORS: THE MITSUBISHI-CHRYSLER JOINT VENTURE IS THE WORLD'S MOST TECHNOLOGICALLY ADVANCED ASSEMBLY PLANT

agement and labor assumed they would quickly create a level playing field. Forced to pay UAW wages and accept Big Three work practices, the transplants would lose the cost advantage of producing in Japan. The Big Three "thought poor quality and high absenteeism were part and parcel of doing business here," says Maryann Keller, an auto analyst at Furman Selz Mager Dietz & Birney Inc. But the Japanese weren't about to play by American rules.

GERRYMANDERING. With only a few exceptions, Japanese auto makers, aided by fat state subsidies, built their plants in semirural areas of the Midwest. They hired mostly young workers with little industrial experience—and no love of unionism. As a result, the transplants enjoy lower health care costs and less costly pension liabilities. But some Japanese companies have come under attack for hiring relatively few blacks. In 1988, Honda Motor Co. paid \$6 million to about 370 blacks and women as a result of job discrimination charges brought by the Equal Employment Opportunity Commission. While giving hiring preference to residents in the Marysville area, the EEOC said, Honda gerrymandered the map to exclude nearby Columbus and its large black population.

Other transplants may have used similar practices. Two University of Michi-

gan professors studied hiring at plants built in the same period by Japanese and Big Three companies. Compared with the Big Three, the Japanese tended not only to choose areas with low percentages of racial minorities but also to hire fewer blacks from the regional labor pool.

Only three of seven transplants in the U.S. are unionized—and those only because they're linked with the Big Three companies. They are New United Motor Manufacturing (NUMMI), in Fremont, Calif.; Diamond-Star Motors in Normal,

Ill.; and Mazda Motor Manufacturing (USA) in Flat Rock, Mich. Even at these plants, UAW pacts allow managers to employ workers in a much more flexible, less costly way than they do at many Big Three plants.

QUALITY CONTROL. The transplants also import a large part of their auto components from Japan or buy from nonunion Japanese suppliers who have relocated in the U.S. They are thus able to control prices and quality. As a result of these and other practices, the transplants enjoy a \$700-per-vehicle cost advantage over Big Three plants, or about one-tenth the retail cost of a small car, says Candice Howes, a UAW economist.

Hoping to reduce this gap, Detroit is being forced to learn from the transplants how to improve efficiency and quality. Although powerful forces within the industry are resisting change, the Big Three are slowly disassembling management and production methods and are remaking them along Japanese lines. Companies that had nearly given up on American workers are finding that giving them decision-making power can be a powerful motivator. U.S. auto makers are learning humbling lessons in quality and cost-cutting as the Japanese plants reject parts that had been good enough for Detroit.

Indeed, the entire producer-supplier

CAPACITY WILL OUTSTRIP DEMAND

ALL AUTO PLANTS IN U.S. AND CANADA



relationship at the Big Three was ripe for drastic change. Traditionally, the American auto makers have dealt with suppliers at arm's length, selecting vendors mainly on the basis of price competition. The Japanese, however, maintain long-term, close relationships with suppliers. Automakers share information and strategic goals with the vendors, help them to improve quality, and jointly develop new technology and training pro-

grams for workers. In the U.S., says Fujio Cho, executive vice-president and chief operating officer at Toyota Motor Manufacturing USA Inc. in Kentucky, "we've been trying to establish good long-term relations and avoid relations where you buy when it's cheap and say goodbye when it's expensive."

Such a different philosophy produced traumas when U.S. suppliers first tried to sell to the transplants. For example, the Japanese emphasize cost-cutting. In

the U.S., notes David M. Merchant, a former manager at Mazda's Michigan plant, if a part cost \$1 the first year, both supplier and buyer assumed it would cost \$1.10 the next year because of inflation. But the Japanese expect the cost to drop to 90¢ because of improvements in costs and quality. When Mazda's suppliers ran into this attitude, Merchant says, "it was kind of a shock." Under conventional U.S. practices, he adds, "the supplier community has

SO WHERE DOES THE UAW GO FROM HERE?

United Auto Workers organizer James R. Weaver is defeated but undaunted. Despite the union's stinging loss on July 26 at the Nissan assembly plant, the UAW in Smyrna (Tenn.) is bustling with workers ready to challenge the carmaker again, he says. "We're not going away. Our flag will be flying high," Weaver vows. But the flag is nearly tattered. The UAW's defeat at Nissan—with 70% opposed to union representation—is a stark reminder of decades of union-organizing woes. With first Honda Motor Co. and now Nissan thwarting the UAW on its home turf, there's a crack in the union's hold on the nation's assembly plants.

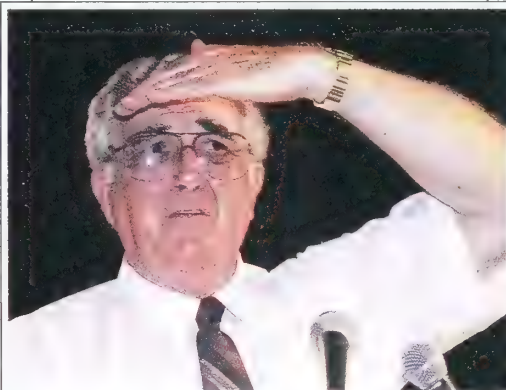
Until now, the UAW's auto-industry membership has suffered the steepest rate of decline in the parts sector. The union represents only 10% of workers at independent parts suppliers, down from more than 50% a decade ago. Indeed, the UAW's failure to win a critical mass of Southern parts makers helped set the stage for the Nissan defeat. "It could be read as a warning sign that when you let whole regions get built up with industry and you don't organize them, you can get to the point where even the large plants are too tough to win," says Daniel D. Luria, an auto analyst at the Industrial Technology Institute in Ann Arbor, Mich.

STOPPABLE? The region's strong anti-union bias and low rate of unionization weren't the only hurdles facing the UAW at Nissan. The company paid higher wages than most had ever imagined. Sophisticated, and some say intimidating, company communications throughout the organizing drive coupled with the promise of plant expansion proved to be more than the UAW could overcome.

While the Nissan plant alone isn't critical for the UAW, it could signal the start of a devastating trend. "This is the beginning of a nonunion sector in

assembly, which is the core strength of the union," says Harry C. Katz, a labor economist at Cornell University. For the UAW, which has seen its membership drop nearly 30% in 10 years, more is at stake than prestige. When a union loses its grip on an industry, it can no longer enforce equal pay for equal work—a basic principle of unionism.

The parts business provides stark evidence. In the last round of contract talks, General Motors Corp. threatened to establish a separate wage scale for its in-house parts suppliers or even lop some off because of the cost advantages enjoyed by outside, nonunion companies. The threat didn't stick, but



BIEBER: NEXT STOP, TOYOTA'S GEORGETOWN PLANT

GM did win greater flexibility in work practices. And some unionized component plants have broken the UAW's wage pattern to keep their operations in business.

The UAW has a better chance of stemming the tide at the transplants than it had with hundreds of smaller parts makers. Workers at three of the seven transplants are already represented by the UAW. And two of the remaining producers have strong ties to GM. One is Toyota, which has a new nonunion plant in Georgetown (Ky.) and also gets along well with the UAW in its joint venture with GM in California (page 79). The second is a Subaru-Isuzu joint venture in Indiana. GM

owns 40% of Isuzu and might support unionism to avoid trouble with the UAW. Insiders say UAW President Owen F. Bieber has urged Toyota officials to stay neutral in a current organizing campaign at Georgetown. "I don't think you're going to find in all the transplants the anti-union sentiment you have at Nissan," says Bieber.

'HARDBALL COOPERATION.' Despite its defeats at Nissan and Honda, the UAW is still setting wages and benefits for all assembly plants. The nonunion transplants pay virtually the same as the Big Three, some to keep the UAW out. But in one area the transplants are already establishing the standard.

The Big Three are following the lead of their Japanese counterparts by demanding relaxed work rules and greater employee involvement to boost quality and efficiency. If the transplants keep the union out, Detroit will pressure UAW locals. "We may see more hardball cooperation—cooperate or else," says Harley Shaiken, a labor expert at the University of California at San Diego.

But for now, the Big Three are treading lightly. The UAW has already shown its willingness to loosen restrictive work rules and to back joint quality efforts. Indeed,

some Big Three plants are now as productive as the best of the transplants. No auto maker is eager to tamper with that relationship. "We made a lot of pledges that we're not anti-union," says a Big Three executive. "It's going to be time for a period of gracious behavior between the parties."

Meanwhile, the UAW will be trying to convince the Japanese that it pays to work with the union instead of against it. At the same time, it will be trying to convince workers that they need the union to protect them from management abuses. That's a tough balancing act that the UAW has yet to master.

By Wendy Zellner in Detroit, with Dean Foust in Atlanta

produced a lot of multimillionaires."

Quality was the big stumbling block for American suppliers in the early transplant years. Parts makers soon discovered that the transplant producers expected them to adjust to Japanese standards. In quality tests, not only the part but the process by which it's made is inspected—along with the company's books. That method used to annoy suppliers, but they've mellowed as the Big Three—copying the Japanese—also began to send scouting parties to suppliers' plants. Toshikata Amino, executive vice-president of Honda of America Mfg. Inc., remembers how puzzled U.S. component manufacturers were when Honda opened a motorcycle plant in Marysville, Ohio, in 1976. "The industry's understanding of the Japanese ways of doing business was superficial," he says. Since then, he adds, suppliers have deepened their knowledge. "I see some domino effect," he says.

LOYALTY LESSONS. Despite this improvement, the Japanese still don't buy much from American suppliers, a fact that annoys U.S. companies. The Japanese usually claim that their cars have local content of 60% to 75%. But that's based on a formula that includes advertising and all other overhead. Indeed, a study by the General Accounting Office put the transplants' 1988 average domestic content at 38%, against 88% for the Big Three. That difference cost Americans 25,000 jobs last year, the GAO estimates.

The transplants' loyalty to their long-term Japanese suppliers hasn't gone unnoticed in Detroit. All of the Big Three, but Ford in particular, have learned that such loyalty encourages suppliers to spend more on research and development. The U.S. companies are absorbing lessons like this mainly by sending their own people to work in a transplant that they jointly own. The mandate: Return and promote change. "If we can open up minds and break down these not-invented-here attitudes, that's the greatest thing we can get from this kind of a venture," says Chrysler's Iacocca.

To speed up the transfer of ideas from its joint venture with Mitsubishi Motor Corp. at Diamond-Star, Chrysler assigned a company plane to make a weekly Tuesday shuttle from Detroit to Normal, Ill. At General Motors, though,

absorbing the lessons of NUMMI was more difficult. GM wasn't looking for what it found. The company wanted to learn Toyota's management methods but assumed those would focus on managing technology. The central lessons, however, went much deeper, involving GM's bureaucratic management style. For GM to adopt NUMMI-like ways will require a major overhaul of the company's values.

In GM's culture, it was unacceptable to

ordinates, "I mellowed out," he says. He absorbed the Toyota philosophy, which bans time clocks, for instance, on the grounds that trust is not gained but earned. Then, two years into his three-year NUMMI stint, he asked where GM planned to place him upon return to the corporation. There was no plan. He quit, believing that General Motors wasn't ready to absorb NUMMI's lessons.

The company took more care in placing the second crew of returnees from NUMMI. "We've all been assigned positions where we can have a fairly significant impact on the operations of the business," says Mark Hogan, now group director of business planning at GM's Truck & Bus Group. "You can look at us as kind of like missionaries or apostles," he says. His gospel: "The importance of job security in getting and keeping the dedication of the workforce."

American unions have been saying this for years, but the example of the trans-

plants is bolstering their argument. A no-layoff policy covering hourly workers is one of the key elements of Japanese labor and production systems. Others include continual training, participation in shop-floor decision-making, team-based production, and group bonus or profit-sharing plans. All of these have been used sparingly by U.S. companies, but the Japanese make it a point to combine them in a comprehensive system that aims at gaining the loyalty of employees and binding them to the company.

The transplants' no-layoff policies have certainly done that. After Nissan's Sentra hit a sales slump in 1988, the Smyrna plant kept producing cars, parking them in a nearby cow pasture. Nissan was not bound by union contracts to avoid layoffs, but the policy undoubtedly aided the company in defeating the UAW. Meanwhile, UAW contracts at NUMMI and Mazda in Flat Rock allow layoffs only if economic conditions are so severe "that the company's long-term financial viability is threatened." When sales of the Chevrolet Nova, produced by NUMMI, dropped last year, the company assigned surplus workers to training programs and prepared for the launch of the Nova's replacement, Chevy's Geo Prizm. Not only did they keep their jobs, but they welcomed the chance to get extra training.



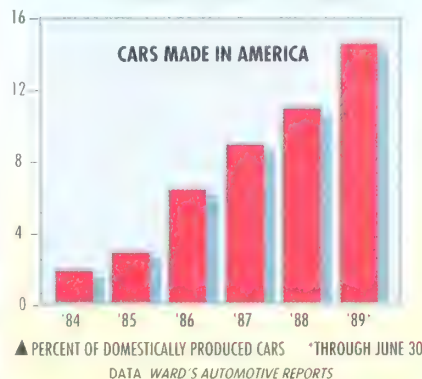
HONDA'S AMINO AND TOYOTA'S CHO: LOCAL CONTENT AT JAPANESE PLANTS IS ESTIMATED AT 38%, VS. 88% FOR DETROIT



publicly admit having a problem. The first GM executives assigned to NUMMI under Toyota managers took nearly six months to realize that the Japanese wanted problems exposed and fixed, not hidden. This gave them something to work on jointly with the Americans. Gary D. Kowalski, now director of logistics and administration at GM's Truck & Bus Group, can still recall the day his Japanese boss looked him in the eye and said: "No problem is a problem."

Stephen L. Bera loved his work as a raw-materials manager at NUMMI. After being chided for raising his voice to sub-

JAPANESE PLANTS TAKE A BIGGER SLICE



NUMMI's willingness to sign a no-layoff provision and give the union a role in decision-making impressed George Nano, the UAW's bargaining committee chairman at the plant. "People make cars," he says. "Technology doesn't make cars. I doubt everyone at GM agrees with that."

Armando J. Piedra, chairman of Diamond-Star, makes a similar point. His plant, filled with robots, is the world's most technologically advanced assembly plant, says the National Society of Professional Engineers. But Piedra doesn't see technology alone as the competitive edge. "The people working here have a sensitivity to working together. That's

the important thing to me," he says. "Anybody can buy a robot."

Respect for employees is a consistent theme at the transplants. Management carefully selects job applicants, trains them thoroughly and often, and treats them with dignity and trust. The approach has yielded highly motivated, involved workers.

A willingness to work in a team environment is far more important than experience in the selection process. At Flat Rock, just south of Detroit, 80% of Mazda's employees have no automotive experience at all—by management choice. "They haven't been exposed to the traditional ills of the auto world," says James

F. Korowin, vice-president of operations. "They're open to learning." Adds Sam D. Heltman, general manager of human resources at Toyota's Georgetown plant: "I'm already seeing other companies looking at more thorough selection systems and taking the time to decide what kind of people you want in the work force."

'LIFE-LONG LEARNING.' At Subaru-Isuzu Automotive Inc., job applicants must have a high school diploma or equivalent. Grades don't matter, only finishing the course work does, because it shows a commitment to education. "From Day One here, the emphasis is on life-long learning," says Tim Miller, who trains

THIS TEAM-UP HAS IT ALL—EXCEPT SALES

Six years after its historic founding, the auto industry's first U.S.-Japanese joint venture has done everything its creators hoped. The new United Motor Manufacturing Inc. gave Toyota Motor Co. a taste of American workers and suppliers. More important, NUMMI built for General Motors Corp. a restyled clone of the popular Toyota Corolla—the kind of quality small car it couldn't design itself. Moreover, it gave GM a crash course in how to make high-quality cars more efficiently than almost anyone. Says Shirley Shaiken, a labor expert at the University of California at San Diego: "NUMMI has become the prototype of what GM would like to be."

Unfortunately, GM has some other problems. Last year, it failed to persuade buyers that NUMMI's version of the Corolla, the Chevrolet Nova, differed from its many rivals. Sales dropped 28%, to 100,000, before production halted last September. As a result, NUMMI lost \$80 million and will lose money this year, too. This points up a fundamental law: All the good manufacturing practices in the world can't

make people buy a car they don't want. **PLANT CAPACITY.** To add insult to injury, Toyota is picking up the slack left by NUMMI production of Corollas that sold by Toyota will jump 43%, to about 80,000 this year. And last April, the Japanese auto maker announced it will fill plant capacity by building 100,000 Toyota pickup trucks starting in August, 1991.

Even so, U.S. auto makers have learned plenty from NUMMI. Before GM closed its Fremont (Calif.) plant in 1982, it was a battleground between

inflexible managers and United Auto Workers members notorious for sick-outs, strikes, and 20% absenteeism. But Toyota, NUMMI's manager, quickly turned it around. It hired the cream of the former work force and junked GM's 100 job classifications in favor of teams with multiskilled members.

That makes for greater flexibility and more committed workers. Absenteeism, for instance, is less than 2% now. Harmony isn't universal; some workers formed a caucus within UAW Local 2244 in 1986 because they felt

above average. What's more, consumers in a survey by market researcher J. D. Power & Associates in Agoura Hills, Calif., gave the Nova the highest quality rating among GM cars.

NUMMI's success makes GM's marketing blunders all the more glaring. NUMMI President Kan Higashi says Nova's styling was unappealing compared with the Corolla and other competitors. Concedes GM President Robert C. Stempel: "There's no lack of high-quality, fuel-efficient, safe, small cars."

GEO POLITICS. The Nova has been renamed the Geo Prizm and restyled to be sportier. But it now looks more like the Corolla, with which it competes. Moreover, most people haven't yet heard of Geo, Chevrolet's new import-oriented nameplate. "Why would anyone buy a Geo Prizm instead of a Toyota Corolla?" asks former NUMMI engineer John F. Krafcik, an auto consultant to the Massachusetts Institute of Technology.

Increased production of Corollas has heightened speculation that Toyota will buy the plant when the joint venture ends in 1996. By then, GM hopes to have absorbed NUMMI's chief benefit: the notion that better management, not massive automation, is the key to efficient manufacturing. Already, it has applied the philosophy to several plants, including the Saturn facility in Spring Hill, Tenn., where expensive automation was scaled back in favor of NUMMI-style methods. But now that it has learned how to build better cars, GM will have to finish the job and learn how to sell them.

By Robert D. Hof in San Francisco, with James B. Treece in Detroit



A GEO ON THE LINE: GM'S RENAMED NOVA IS STILL GOING NOWHERE

union leaders weren't backing them up on concerns about promotions and job placements after injuries. Moreover, the assembly line is faster than it used to be. There's little conversation, or time to pick up a dropped bolt. But George Nano, chairman of the UAW's bargaining committee, says the vast majority of workers back the NUMMI methods, believing that a more efficient plant makes jobs more secure over the long run.

Even without much automation, each worker produces 63 cars per year, more than any U.S. plant and 40%

newly hired workers. "A person is not going to learn a job and then do it the rest of their life." Typically, a job candidate at a transplant goes through a series of tests and interviews before being hired.

The transplants are by no means without blemishes. Despite all the effort to build goodwill, part of the transplants' work force is dissatisfied. Last June, NUMMI workers elected slightly more hard-line candidates to four of eight slots on the UAW's shop committee, and Mazda's local voted out officers who were seen as too cozy with management. Nearly one-third of Nissan's Smyrna workers voted for representation by the UAW, partly because of health problems stemming from what the critics call "speedup."

FAST PACE. It's not so much that the transplants' assembly lines run faster than the Big Three's. Rather, the Japanese insist on a higher work intensity. They use the *kaizen* concept that calls for assemblers to make continuous improvements in performing their tasks, both to improve quality and to eliminate unneeded motion. There is continuing pressure to produce cars at the same line speed with fewer people. Harley Shaiken, a professor at the University of California at San Diego, says that at GM's modern Linden (N.J.) plant, workers work 48 seconds out of every minute. At NUMMI, they work 55 seconds a minute.

Isamu Nobuto, president of Mazda's Flat Rock plant, doesn't deny that workers have little free time. "People should be employed doing work that has value. It is not respecting the employee if we have them doing work that is wasteful." But it's hard to transfer this concept to Big Three plants, where labor and management have long considered themselves on opposite sides of a chasm. In this climate, veteran assembly line workers question whether working harder serves their interests as well as management's. Staunch unionists also worry about other Japanese practices, such as discouraging workers from filing grievances. This weakens the union's basic role as a grievance processor. And lumping all production workers into one job classification and basing promotions on merit undermine the bedrock principle of seniority.

But change seems unavoidable, for both labor and management. There's no shortage of Americans wanting to buy Japanese cars or willing to work for Japanese employers. U.S. auto makers must apply the lessons they learn from the transplants. If they don't, their place will be taken by another U.S. carmaker—with a Japanese name.

By James B. Treece in Detroit, with John Hoerr in New York and bureau reports

The Corporation

MERGERS

FILLING BRISTOL-MYERS' PRESCRIPTION

Its Squibb merger is a standout, pooling both houses' strengths



FURLAUD (LEFT) WITH FRIEND GELB: AN "OLD-FASHIONED AMERICAN PLAIN-VANILLA MERGE"

For years, potential suitors got the cold shoulder from Richard M. Furlaud, chief executive of Squibb Corp. Cherishing his company's independence, he turned them away as he built Squibb into a top-flight drug house. "Everybody wanted Squibb," he says.

But now, in an \$11.5 billion deal that will spur on an industry already stricken with mergermania, Furlaud is handing over control to Richard L. Gelb, his counterpart at Bristol-Myers Co. and

longtime friend. Furlaud will stay on as president and head of pharmaceutical operations for Bristol-Myers Squibb, and it's Gelb who will call the shots at what will be the world's second-largest drug company. "Why did I take a step down?" asks Furlaud. The short answer: clout. Sure, Squibb's drug pipeline is highly productive, but to keep churning out winners costs big bucks. By combining their drug research budgets—and marketing power—"two plus two equal five," Furlaud asserts.

That kind of math is proving increasingly seductive. The latest drug merger came on the heels of some other big deals (table). And only minutes after it was announced on July 27, investors started bidding up shares of such outfits as Schering-Plough, Upjohn, Roerig Group, Warner-Lambert, and Syntex. "The pressure is on these second-tier companies" to find a merger partner, says Norman C. Selby, a health care consultant and principal at McKinsey & Co. "They have to do something." And fast. Foreign competitors such as Glaxo Holdings, Rhône Poulenc, and F. Hoffmann-La Roche would love to get their mitts on a U.S. drug house, says Selby.

Gelb has long coveted Squibb. It

AN URGE TO MERGE

1988

White knight Eastman Kodak gets Sterling Drug for \$5.1 billion

1989

SmithKline Beckman's dwindling pipeline of new drugs pushes it into Beecham's arms for \$7.7 billion

Dow Chemical agrees to buy 67% of Marion Laboratories for as much as \$5.5 billion

Bristol-Myers and Squibb agree to an \$11.5 billion merger

American Home Products awaits court approval to buy A.H. Robins for \$3 billion

DATA BW

ff targeted the smaller company as back as 1983. Gelb invited discussions in 1986 through mutual friend and American Express Co. chief James D. Robinson III, who sits on Bristol's board. But Furlaud wasn't interested. So why now? "I'm 66. He's 65. And if we're to do it, it'll take several years," says Gelb. "It was the relationship that we had and I had that made this possible." What Gelb and Furlaud fashioned is a merger that stands out for the strengths it combines. SmithKline Beckman Corp.'s inability to come up with important new drugs, for instance, pushed it into the arms of the Beecham Group. And the deals by Eastman Kodak and Dow Chemical Co. to acquire drug houses were mainly efforts to diversify. But both Squibb and Bristol-Myers are well-positioned and fast-growing. Squibb's strength is its ethical-drug development, and Bristol's is a knack for capitalizing on over-the-counter drugs, such as Excedrin, and consumer brands, such as Clairol. Together, Bristol-Myers and Squibb will have drug sales of \$4.5 billion and will be able to plow \$600 million a year into research, second only to Merck & Co. on both counts.

RINKY-DINK. The deal turns up the heat even on mighty Merck. Squibb will add more firepower for marketing Capote's billion-dollar treatment for hypertension and congestive heart failure that goes head-to-head with Merck's big-selling Vasotec. And soon, Squibb expects to roll out its cholesterol-lowering lovastatin to challenge Merck's hit Mevorin. Bristol will help formulate and market over-the-counter versions of Squibb drugs, matching Merck's recent up with Johnson & Johnson.

While Bristol's success at pharmaceuticals is modest, it is a major producer of cancer drugs and has done important work in fields where Squibb's efforts are limited. "If one were going to devise the ideal sort of mix, I don't think you could do any better," says Dr. Charles Sanders, who oversaw Squibb's research effort until recently becoming chief executive of the U.S. arm of rival British giant Glaxo.

Given the structure of the deal is distinctive in an era of big-debt takeovers. There is no cash, there are no mortgages, no rinky-dink, no junk bonds, no special deals," says Furlaud, pounding a table. "This is a good old-fashioned American plain-vanilla merger." By doing a stock swap, the combo won't have to take on extra debt. And since it will be accounted for as a pooling of interests, there won't be any enormous goodwill amortization to drag down earnings in future years. But because Bristol has issued new shares, earnings per share will be diluted the first year by at least 10%, say analysts, and it may take two

to three years before earnings start growing. Indeed, Bristol's stock, at 48 or so, was off more than 3 points in the first days after the news hit, while Squibb's was up 24, to about 112.

Gelb says he's not yet prepared to talk about possible cost savings. But one thing's for sure: Both he and Furlaud, who have been friends for 25 years, have the same values. They want to build, not cut back. And they expect to be around for the next few years to see to it. Although they've reached the age when many people retire, both are healthy and energetic. Gelb, who was treated for stomach cancer in 1986, is in remission. And he says he'll stay at the job at least until his contract runs out on June 1, 1993. For his part, Furlaud says he'll stay until the pharmaceutical side is in shape—which no doubt will be a few years. That's not to say there are no successors in the wings. The strongest

prospects: Wayne A. Davidson, who heads Bristol's pharmaceutical operations, and Jan Leschly, Squibb president and chief operating officer.

For now, though, Gelb and Furlaud must see how friendship carries over into business. Furlaud is readily deferring to his new boss in public. And Gelb seems likely to give Furlaud a lot of slack in running pharmaceutical operations, which will account for about half of the combo's sales and 75% of its earnings. Furlaud will seek synergies but initially promises a light touch, tolerating separate research operations in Wallingford, Conn., and Princeton, N.J., for instance. He knows better than anyone else that keeping researchers happy is vital. After all, it's the people in the white lab coats who can make the deal worth every penny of \$11.5 billion.

By Joseph Weber and Susan Benway in Princeton, N.J.

AIRLINES

A PROMISING FLIGHT PLAN —IF NO RAIDERS SHOW

Will a takeover threat foil the USAir-Piedmont deal?

READY FOR TAKEOFF

	USAir	Piedmont
HUBS	Pittsburgh Philadelphia	Charlotte Baltimore Dayton Syracuse
FLEET	223 aircraft in service 105 on order	203 aircraft in service 3 on order
REVENUES*	\$2.8 billion	\$2.4 billion
DAILY FLIGHTS	1,527	1,470

*For 1988

DATA: COMPANY REPORTS

Every now and then an airline merger will turn into a bad trip. At Continental Airlines Inc., for example, service and profits have only recently started to recover from the effects of a too-hasty merger with a failing People Express Airlines Inc. in early 1987. And almost three years after their carriers combined, pilots from Republic Airlines Inc. and Northwest Airlines Inc. are still arguing over seniority.

Edwin I. Colodny, chairman of USAir Group Inc., has no intention of botching his merger—and he wants no raider to benefit from his handiwork. On Aug. 5, when USAir joins operations with Piedmont Aviation, Piedmont's identity as a separate carrier will disappear, and a \$6

billion airline, the sixth-largest in the country, will start flying.

In the 21 months since the Transportation Dept. cleared the \$1.6 billion Piedmont buyout, Colodny and his managers have methodically prepared for this day. Piedmont has already adopted USAir's flight and maintenance procedures. Negotiators have successfully drawn up seniority lists for pilots and flight attendants at both carriers. Heavy advertising has informed travelers of Piedmont's name change. And workers have installed first-class seats in USAir's planes, in imitation of Piedmont.

HOSTILE BID? But even Colodny, renowned in the industry for his mastery of detail, has not been able to control every aspect of this merger. He must still improve Piedmont's on-time record, which has deteriorated badly. The pilots of the two airlines, where pay structures vary, have still not accepted a transition agreement: A federal mediator is now overseeing the talks. Most troublesome of all is a mid-July filing with the Securities & Exchange Commission by a group of investors, including New York's Steinhardt Partners, which stated that it held 5.9% of USAir and that it might consider a bid for the company.

Since Steinhardt's filing, and since the reported rumor that billionaire Marvin Davis was also interested, USAir's stock

The Corporation

has climbed almost five points, to a recent 52½. Asked about his firm's plans, Gary Fragin, a Steinhardt general partner, will only say: "We think USAir is significantly undervalued." Many analysts note that Steinhardt's track record in takeover attempts has not been stellar, but they don't dismiss the idea that a true raider might emerge to pursue USAir. Even after buying Piedmont and Pacific Southwest Airlines, a West Coast carrier, USAir has managed to hold its long-term debt down to about 40% of capital, and its balance sheet could support the debt of a takeover. The estimated buyout price for USAir: \$85 a share.

A hostile takeover could mean a bitter end to Colodny's disciplined rule as chairman. For a decade, the Harvard

fied with developing USAir from within. But with the takeover wars heating up and the survivors of deregulation dwindling, he took to the field and bought PSA and Piedmont. "We backed into it," Colodny acknowledges. "We had to merge or be acquired."

PSA gave Colodny routes on the West Coast where airlines such as American Airlines Inc. were expanding. Piedmont resembled USAir: Powerful in the Southeast, it offered frequent hops in narrow-body planes to growing cities such as Charlotte and Winston-Salem, N.C. To manage this newly acquired empire, Colodny moved USAir's headquarters this year from a cramped and leaky hangar at Washington's National Airport to a complex in nearby Arlington, Va.

record for the carrier. The question is whether Colodny's strategy will suffice for the long term. For one thing, USAir, which already has high labor costs, must absorb the expense of adjusting Piedmont's pay scales to match USAir's.

GOING GLOBAL. At the same time, USAir has to contend with rivals that enjoy lower labor costs, such as Continental, which has no pilots' or mechanics' union. Timothy Pettee, an analyst with Merrill Lynch & Co., notes that Continental is competing with USAir in such markets as Cleveland and Newark, N.J.: "Continental has USAir in their sights," he says. Others in USAir's territory include American in Raleigh, N.C., and United Airlines Inc. at Dulles International Airport. And while Colodny's focus is on



THE COMBINED \$6 BILLION AIRLINE WOULD BE SECOND IN SIZE TO AMERICAN'S FLEET AND SIXTH-LARGEST IN THE NATION

University-trained lawyer has followed a simple strategy for USAir. The carrier, a direct descendant of Pittsburgh's Allegheny Airlines, provided frequent service to high-paying executives traveling to small and midsize cities in the Northeast with little competition from other carriers. Colodny also neatly sidestepped the problem of profitably filling wide-body jets by sticking to smaller planes such as the 110- to 150-seat Boeing 737. **STAINED CARPET.** As USAir grew, Colodny continued his hands-on style. "When Ed goes on a trip through a USAir terminal, he constantly makes notes," says P. Jackson Bell, who was USAir's chief financial officer until last year. "He sees a stain on a carpet, and he'll call the manager."

Colodny concedes that were it not for deregulation, he would have been satis-

Many observers think that Colodny has accumulated the critical mass he needs to remain a force in the industry. "Together, Piedmont and USAir represent a lot of volume for the travel agencies," says David Treitel, senior vice-president of Simat, Helliesen & Eichner, a New York-based airline consulting firm. With a combined fleet that's second in size only to American's, Colodny plans to use his hubs as jumping-off points for more flights to the West Coast, Florida, and the Caribbean. And he intends to add modestly to his small European presence with a flight to Frankfurt, West Germany.

Colodny is counting on 8%-10% annual growth to keep USAir a national competitor enjoying some of the best margins in the industry. Estimated profits of more than \$200 million for 1989 should set a

U.S., American and United are committed to rapid growth worldwide, a trend that some argue works against USAir. "Airlines must look globally, or the competition will get your customer," contends Lee R. Howard, vice-president of Airline Economics Inc., a Washington, D.C., consulting firm.

In the face of such criticism, Colodny is philosophical: "You can only do so much. And we have to get synergies out of this merger." So far, he has flourished despite the forays of swashbucklers such as People Express' Donald Burr and a takeover attempt in 1987 by Carl C. Icahn. In the next decade, the airline will find out if his prudent approach can hold its own against the test survivors of deregulation.

By Seth Payne, with Christopher Powell in Arlington, Va.

SOME NAMES JUST COMMUNICATE BETTER THAN OTHERS.



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William Henry Pratt*



*Judy Garland was
Frances Gumm*



*W.C. Fields was
William Claude Dukenfield*



*Chubby Checker was
Ernest Evans*

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STERN SAYS OF HIS FIVE MONTHS OF COST-CUTTING: "IT'S NOT BEEN WITHOUT PAIN, BUT PEOPLE ARE COOPERATING"

IS PAUL STERN TOUGH ENOUGH TO TOUGHEN UP NORTHERN TELECOM?

He has to wring more profits from the company to fund an ambitious global expansion

Paul G. Stern calls it the War Room. Located deep inside the suburban Toronto headquarters of Northern Telecom Ltd., it's where the new chief executive monitors his cost-cutting assault on the telephone equipment maker. The symbolism isn't lost on subordinates. Stern, who was dubbed "The Buzz Saw" by executives he fired when he was president of Unisys Corp., uses his personal computer to search for budget details in each of Northern's operating units. Five months after taking the job, Stern says his message has sunk in. "It's not been without pain," he says, "but people are cooperating."

It's a good thing they are. The 50-year-old Stern has taken control of Northern at a critical time. A highflier until last year, the company posted a 50% decline in 1988 profits, to \$165.6 million, on a 10% gain in sales, to \$5.4 billion. Stern must wring substantially higher income from the company's already lean operations in the U.S. and Canada to fund an ambitious global expansion in the 1990s. He'll also have to boost Northern's share of the torrid transmission-equipment market. Otherwise, Northern could be swallowed by a larger rival in the rapidly consolidating

worldwide phone equipment business.

A crucial first step will be to reverse Northern's earnings slide. Margin-sapping price wars in its best-selling products—central office switches used by phone companies and private branch exchanges (PBXs) sold to businesses—finally caught up last year with an expense structure that had been growing at a phenomenal 20% annual clip. And rivals such as AT&T, West Germany's Siemens, and Japan's NEC and Fujitsu were gaining ground.

Something had to give. With Chairman Edmund B. Fitzgerald, 64, due to retire next spring, Northern's board wanted a disciplinarian. Having determined that none of his top executives fit the mold, Fitzgerald went outside for Stern. A tough operations manager, Stern had quit Unisys the year before, taking \$6.7 million in severance pay rather than share the president's office.

THE RIGHT STUFF. A native of Czechoslovakia who emigrated to Mexico before World War II with his parents, Stern had both the right image and background for Northern. His family was in the electronics business, and Stern became an electrical engineer before earning graduate degrees in physics from

the Stevens Institute of Technology in Hoboken, N.J., and the University of Manchester in England. After school he spent seven years as a manager on the technical side at IBM, then landed at Itek Corp. before it became Unisys. There the intense Stern, who will lift the veil on his private life only to boast of his Ferrari, dealt closely with Washington's defense establishment. That was another draw for Northern, given its desire to boost its government orders.

Stern arrived at Northern just as it posted one of its worst years ever—thanks in part to a \$200 million charge in the fourth quarter for plant closings. That was just the opening act. For the next few years, Stern plans to hold search-and-development spending flat at about \$700 million a year, vs. a 21% increase in 1988. And he's restricting growth in capital spending, travel, and administrative expenses to half of Northern's sales growth. Austerity is already paying off: First-half earnings of \$117 million were down just 12% from a year earlier—far better than Stern and Fitzgerald had expected a few months ago. New orders surged 20% in the first quarter and 16% in the second.

With a weak spot for pleasant

es, Wall Street has bid Northern's
k up more than 40% since Stern's
al, to more than \$20 a share. Ana-
J. Michel Guité of Salomon Brothers
ks it will go even higher. He expects
n's cost savings alone to push the
s price above its 1987 precrash
of 24¼.

efore the stock can really take off,
gh, Stern must find new products
the home-run power of Northern's
al switches and PBXs. One may be
phone transmission equipment. AT&T,
ce's Alcatel, Rockwell, and several
nese suppliers dominate the U.S.
et, while Northern lags with only
vs. AT&T's 46%. Currently,
outers digitize voice calls
data traffic into computer
uage. Multiplexers then
press it to speed transmis-
But it's an inefficient sys-
hampered by incompatible
ment that must repeatedly
these digital streams and
ify them to reach their
nations.

D OF THE PACK. Scientists
ell-Northern Research Ltd.,
hern's lab, think they've
e up with products to solve
e problems and leapfrog ri-
Their guide was a new set
international standards
own as synchronous optical
orking (SONET), which will
ut a single fiber-optic
ad to carry 32,000 channels
oice and data messages si-
aneously, quadrupling ex-
g capacity. By fall, North-
will unveil SONET-based
ems that Stern says will
into Northern's installed
of switches and save phone
panies 30% in future capital
s. Better yet, the systems'
icial intelligence software
instantaneously reroute
ic if a fiber line is broken or
aged. Roy Merrills, presi-
of Northern's U.S. unit,
dicts that he'll grab nearly half of
t will be a \$5 billion-per-year market
SONET-based equipment by 1994—
much more if phone companies are
permitted to carry traffic such as
definition cable TV signals. "We're
e head of the pack," he says.

or now, anyway. Rivals, including
and Alcatel, are developing their
lines of SONET-based systems. Still,
hern seems to be following nearly
same path it took in the early 1980s,
n it came from nowhere to grab the
s share of Bell orders for digital
hes. Northern jumped out front af-
AT&T failed to replace its older ana-
central office switches with digital
. AT&T even let Northern, a captive

supplier to parent Bell Canada, sell to
AT&T's local phone companies.

This blunder paved the way for orders
that helped the Canadian upstart double
in size in the past five years. Long-dis-
tance carriers MCI Communications Corp.
and U.S. Sprint Communications Co.
also bought Northern equipment to
route their calls. Displaying the same
nimbleness in the corporate market,
Northern floored its competitors early
on with a digital PBX full of features
such as one-button call conferencing
that quickly took hold in the U.S.

But Northern had a hard time coping
with success. AT&T came roaring back in

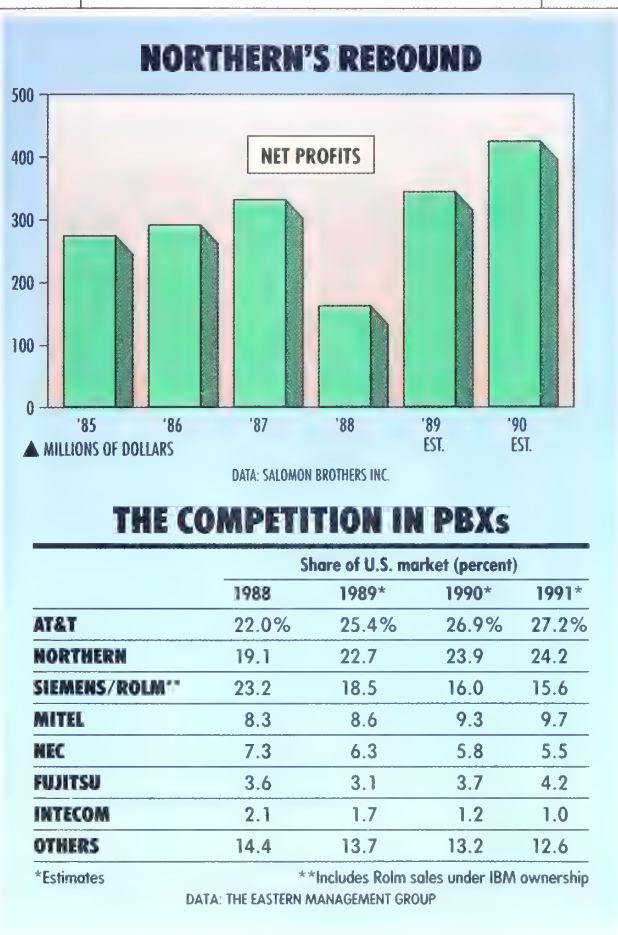
ed a new central processor, called Super-
node, that doubled the call processing
capacity of its predecessor. Customers
have been promised another fivefold in-
crease by the end of 1990, and Roth says
his staff will have no problems boosting
performance by a factor of at least 10.
That should give phone companies the
firepower they are demanding. And it
may mean that Northern and AT&T will
share equal helpings of U.S. shipments,
while outsiders such as Siemens, L. M.
Ericsson, and NEC are left with table
crumbs.

GETTING A BOOST. Northern also is pac-
ing the field in the cutthroat PBX race
(table). Fitzgerald's 1984 deci-
sion to leave most of Northern's
PBX marketing to the Baby Bells
and independent phone compa-
nies helped it avoid the bulk of
PBX marketing costs and to cut
annual sales staff turnover that
had exceeded the industry aver-
age of 20%. That's crucial in a
market in which prices have
dropped 25% a year and losses
are common. Eastern Manage-
ment Group, a researcher in
Parsippany, N.J., says North-
ern is also getting a boost from
customer defections after IBM's
decision to shed its troubled
Rolm Corp. unit to Siemens.
Overseas, Northern has built
PBX assembly plants in China,
France, and Ireland as part of
a strategy to build an infrastruc-
ture for the eventual sale of
higher-margin central office
switches.

The idea is to boost interna-
tional revenues to nearly \$6 bil-
lion, or roughly as much as cur-
rent overall sales, by the year
2000, according to Northern Tele-
com World Trade President
Desmond F. Hudson. Consider-
ing that overseas sales in 1988
were only \$252 million, Hudson
has a long way to go.

Northern has beachheads in
Japan, where it is the only outside sup-
plier of switches to Nippon Telegraph &
Telephone Corp., and in Britain, where it
has a \$1 billion, 28% stake in STC PLC.
Still, telecommunications equipment is
an increasingly treacherous business,
and Stern may have to buy a rival to
boost overseas business—or be bought.
With competitors joining forces, he and
Fitzgerald acknowledge that to stay in
the global equipment game may mean
recommending that majority owner BCE
Inc. sell Northern if the price is right.
It's a good bet, though, that Stern will
make a lot more visits to the War Room
before that happens.

*By Chuck Hawkins in Toronto, with bu-
reau reports*



1984 with a faster digital switch that
vaporized Northern's No. 1 position.
Worse, when Northern tried to add new
features such as call waiting, software
bugs and capacity problems showed up
in its DMS central office switches. And
except for big contracts in Turkey and
Japan, attempts to sell the DMS overseas
faltered in the face of competition from
rivals such as Alcatel, which outgunned
Northern to buy ITT Corp.'s extensive
worldwide telecommunications opera-
tions in 1986.

Today, Northern's DMS line is back on
track—thanks to what its R&D chief, Ex-
ecutive Vice-President John A. Roth,
calls a "lobotomy and brain transplant."
A \$250 million development effort yield-

DEC HAS ONE LITTLE WORD FOR 30,000 EMPLOYEES: SELL

Its slump prompts new products and an army to field them

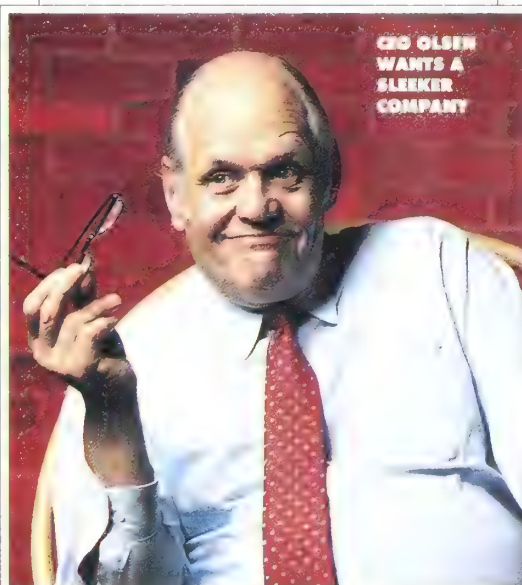
In 1986, when Kenneth H. Olsen, the chief executive of Digital Equipment Corp., wanted to remind his vice-presidents what the company was all about, he summoned them to a suburban warehouse and set them off on a race to see who could unpack and assemble a DEC computer system the fastest. The uncontested winner was David W. Grainger, a 6-foot, 4-inch Canadian who was vice-president of field service.

Earlier this year, when DEC's U.S. sales faltered, Olsen skipped the games and went straight to Grainger. He created an organization that combines DEC's marketing, sales, and service units into one 30,000-employee army. And he made the 46-year-old Grainger, who is now vice-president of U.S. sales and marketing, the general. Grainger's job has quickly become the most critical one at DEC. On July 27, the company announced that U.S. revenues were flat at \$5.7 billion for the year ended June 30 and blamed that for an 18% plunge in net income, to \$1.07 billion—the first yearly earnings drop for the \$12.7 billion company since 1983.

DEC's comeback strategy is simple: supply Grainger's troops with a barrage of new computers and software to sell. Starting in January, DEC began a series of product announcements that will continue through the end of the year. By then, the company will have new models in every major product line. "They are building the platform for substantial revenue growth," says analyst Barry Willman of Sanford C. Bernstein & Co. "They will be in their best product position since 1985 and 1986," when new products fueled DEC's meteoric growth.

BIG BOY. For now, the heart of DEC's line remains its minicomputers. And although rivals such as Data General Corp. and Wang Laboratories Inc. are suffering serious sales and profit slumps, DEC's huge installed base almost guarantees it healthy minicomputer sales for some time to come. For example, the VAX/6000 series, which was beefed up with the new VAX/6400 model in July, is expected to generate revenues of more than \$2 billion in fiscal

1990. Meanwhile, DEC is trying to grab more of the fast-growing workstation market. In January, it launched workstations using an industry-standard Unix operating system, or basic software, instead of DEC's proprietary VMS software. In July, it added another aggressively priced DECstation that is aimed at undercutting Sun Microsystems Inc.'s new SpareStation.



DEC'S PROMISING NEW PRODUCTS

Product	Competes with	Est. 1992 sales* Billions of dollars
DECSTATION 3100	Sun, Hewlett-Packard workstations	\$2.20
VAX 6000	IBM AS/400 minicomputers	\$3.40
VAX 9000/ "ARIDUS"	IBM mainframes	\$2.95

*Fiscal year ending 6/30

DATA: SANFORD C. BERNSTEIN & CO., INTERNATIONAL DATA CORP. ESTIMATES

The most important new product—the biggest VAX ever—is due out this fall. Code-named Aridus, it is expected to put DEC in direct competition with IBM mainframes for the first time. And it is particularly important for reviving sales in the U.S., where DEC's largest customers have been clamoring for more powerful machines. "While the classic mainframe market is flat, it is still a huge market," says Grainger. "And there is a clear demand for VAXs of that magnitude."

Despite all the new iron, analysts don't expect a sudden turnaround. For one thing, Aridus is not expected to be shipped in volume until January. In the meantime, DEC officials have warned of continuing softness in its U.S. sales. "DEC is in for a couple of tough quarters," says Shao Wang, an analyst at Smith Barney, Harris Upham & Co. DEC's recent earnings announcement and fear of a general slowdown in the U.S. economy have prompted analysts to cut estimates of the company's fiscal 1990 earnings to \$9.50 per share or less—well below the \$11 some analysts were predicting last winter. The stock, stuck in the mid-90s—not far from its postcrash low of 86.

SHIPPING OUT. Meanwhile, Olsen is trying to get DEC in fighting trim. He has imposed a wage freeze to cut overhead and ordered the reorganization that created Grainger's new division. When Grainger was promoted, Charles E. Shue was removed as vice-president of U.S. sales and assigned to special projects. Several DEC marketing managers who had reported to Senior Vice-President John J. Shields, once considered Olsen's heir apparent, now report to Grainger. Since taking over, Grainger has decentralized the U.S. organization, putting control of product, service, sales, and marketing branches under a manager in each region instead of a headquarters executive. DEC should now respond faster to customers.

Grainger's most promising move is an effort to target specific industries. He has put regional managers in charge of all employees—programmers, systems engineers, not salespeople—who serve a given industry. The New York manager, for example, will supervise all marketing aimed at the financial-services business. DEC also is setting up so-called competency centers for each customer group, an extension of its demonstration centers where customers watch DEC computers running software for specific industries. At the new centers, product engineers and support people will be

tailor a system to a customer's business. Many of these moves echo the massive "back-to-the-field" movement that IBM initiated in 1986. Like Big Blue, DEC is trying to slim down its overstuffed headquarters by moving workers to local sales offices, where they can produce revenue. "We want more salespeople with less overhead," says Olsen. In the some 3,000 to 4,000 employees, mostly technicians and engineers, will be trained and shifted to the sales organization.

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tion. "We need more resources pointing at customers," says Grainger.

As at IBM, the undertaking is bound to be expensive—and have a slow payback. Three years after IBM shifted thousands of workers to field offices, it still is struggling to match its record 1984 earnings. In fiscal 1989, while DEC's U.S. sales remained flat, its sales and administrative overhead jumped to 29% of revenues, up from 26.7% in 1988. Analysts worry that despite its wage freeze, DEC still spends too much on overhead. Even though it avoids layoffs, the company says it may take "selective actions" such as reassigning workers or inducing them to quit voluntarily.

The combination of the reorganization and new products could spark DEC's recovery. Industry watchers note that

Taking on IBM's mainframe
the new Aridus alone could
contribute \$1.4 billion to
DEC's gross profits in 1991.

IBM's beefed-up field-sales organization has been instrumental in making the company's AS/400 minicomputer a success. Assuming DEC's organization can do the same, Bernstein's Willard predicts that net income could rise by about 20% annually, starting in calendar 1990. With 70% gross margins, Aridus alone could contribute \$1.4 billion in gross profits in 1991. And as more software becomes available for the new line of DEC computers that use Unix, sales of those machines should accelerate.

LOOSE TALK. While analysts debate how long it will take DEC to bounce back, they are keeping tabs on the major changes the slowdown has brought. Shields, 50, the executive who was running most of the company when things were going wrong, is no longer seen as Olsen's successor. "Everybody is looking for scapegoats," says Robert Randon, president of TRS Inc., an industry consulting firm. Adds a DEC director: "Olsen was annoyed that everybody kept mentioning Shields."

Now, this director says, the board is looking for another heir apparent. Although Grainger isn't yet among the names most often mentioned, he could become a contender. He's already predicting: When salespeople arrive at Brown University this summer to learn about new DEC products, Grainger is asking each of them to unpack and set up a DEC computer system.

By Leslie Helm in Boston



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Developments to Watch

BY WILLIAM D. MARBACH

K TRACY SETS THE BEEPER



It's not quite Dick Tracy's wristwatch phone, but it's close. Motorola Inc. and Timex Corp. have developed a wristwatch pager. It weighs less than 2 ounces and looks and keeps time like any digital watch, but it also is a fully functioning pager. It displays a caller's phone number, stores pages even when it's turned off, and records the time a page is received. Compatible with all paging systems, the watch operates for 40 days on one tiny battery. Motorola, the world's largest maker of pagers, anticipates demand from doctors, social workers, and other professionals who are tired of lugging around bulky pagers. The use of mobile workers who would find the device handy is growing faster than the number of deskbound workers, Motorola notes. The wristwatch pager, priced at less than \$300, is available in the fall.

NOT BREAKTHROUGH IT MAY ADD MUSCLE TO METAL

Defying conventional wisdom, a materials scientist at North Carolina State University has made an intriguing discovery that promises much stronger metals. Engineers had believed it impossible to generate an electric field across a piece of metal because the field would be instantly converted into a magnetic field. But when N.C. State's Hans Conrad applied up to 10,000 volts across an apparatus containing metals, to his surprise, the electric field spanned the material—and significantly changed the metal's microstructure and properties. Steel that is heat-treated in the presence of Conrad's electric field, for example, doubles in strength, and copper becomes as heat-resistant. Similar benefits were produced by applying the electric field while shaping "superplastic alloy" materials used in high-tech planes and other aerospace applications. Scientists who have studied the unexpected results still haven't figured out what the electric field does to produce the changes. But Conrad has already started to work with a large aerospace producer. "So far," he says, "we have just looked at the tip of the iceberg of possible applications."

STROKE SUFFERERS, A CHANCE TO CUT THE LOSSES

When you may feel a strange tingling. Then, perhaps, your right arm feels as if it fell asleep. When you finally go to the emergency room, the doctors say you have had a stroke. And for the time being, they can only stand by and watch as you suffer permanent brain damage. That's because there's currently no way to dissolve blood clots in the brain, which cause 85% of strokes. Such clots cut off the oxygen supply, causing brain cells to die.

A new drug derived from snake venom may soon remedy that. Ankrod, made with Malaysian pit viper venom, appears to dissolve blood clots in the brain, thus reducing the damage. Researchers think the substance interferes with the action of fibrinogen, which triggers blood clotting.

To save oxygen-starved brain tissue, doctors must administer the drug no more than six hours after a stroke strikes. "We really don't have any other form of therapy," says Dr. David G. Sherman, chief of neurology at the University of Texas Health Sciences Center in San Antonio, where clinical trials are under way. The experimental drug is produced by Knoll Pharmaceuticals of West Germany.

A REPORT FROM THE HILL GIVES HDTV A WEAK RECEPTION

High-definition television (HDTV) has become the centerpiece in Washington's struggle to boost U.S. competitiveness. Proponents argue that moving ahead in this technology is essential—not only to help revive the moribund U.S. consumer electronics industry but also to ensure a leadership role in everything from semiconductors to supercomputers.

But on Aug. 1, the Congressional Budget Office released a report dashing those claims. Even under the most optimistic sales forecasts, HDTV would barely affect the semiconductor industry, the report concludes. And HDTV would account for only a small share of the total market for electronics equipment. The CBO also doubts that consumers will rush to buy the pricey sets.

Supporters struck back swiftly. At a press conference the same day, Representatives Don Ritter (R-Pa.) and Mel Levine (D-Calif.), who co-chair the Congressional HDTV Caucus, charged that the CBO ignored spinoff benefits: HDTV will force the development of a host of new cutting-edge technologies. "This report is a dangerous form of nonsense," says Levine.

THIS CAMERA GETS THE RED OUT OF YOUR EYES

It happens all the time: After the party, the pictures come back from the developer and, sure enough, someone has bright red eyes. The reason is that people's eyes dilate when light levels are low—which, of course, is precisely when you need a flash. If anyone looks directly at a camera with a built-in flash, the light will reflect off the retina at the back of his or her eyes. Since the retina is red, the result is red-eye glare.



To solve this problem, Olympus Corp. has developed a new flash system that emits several short "preflash" bursts of light before the camera's lens opens. The eyes of anyone looking at the camera react to these bursts by contracting. After the pupils in their eyes begin to shrink, reducing the amount of light that can be reflected off the retina, the camera flashes a final time and takes the picture. All this happens in a mere twinkling of an eye.

The new multiflash will be introduced in September on the Olympus Infinity Zoom 200. This 35mm "point-and-shoot" camera, which will list at \$440 and probably be discounted to a little less than \$300, also has automatic focusing and exposure, a zoom lens, and other convenience features.

TAIWAN GOES FOR BROKE ON SEMICONDUCTORS

Silicon Island? Well, first it must weather a shakeout or two

Silicon Valley was the prototype. Then came Scotland's Silicon Glen and the Silicon Forest in the Pacific Northwest, among others. Now, another clone of California's high-tech enclave is in the offing: Silicon Island, better known as Taiwan.

For years, the government of Taiwan, worried about falling behind in technology, has been trying to goad prosperous low-tech companies into taking the plunge into chips. Taiwanese capitalists hesitated, aware of their own ignorance as well as the highly volatile nature of the semiconductor business. But with South Korea forging ahead, lavishing billions on chipmaking plants, the prodigal has intensified.

Resistance is finally crumbling. Taiwan companies are shelling out more than \$1.2 billion to build six chipmaking plants. The first began churning out small volumes of chips in June, and another will start up before yearend. When all six are up and running in 1992, Taiwan aims to supply some 4% of the world's demand for chips—leapfrogging every European country to become the No. 4 supplier, trailing only Japan, the U.S., and Korea.

FIELD OF DREAMS. The hub of activity is the Hsinchu Science-based Industrial Park, about 50 miles south of Taipei. There the atmosphere crackles with the same kind of electricity that charges Silicon Valley. "Put three guys and an idea together, and they'll go out and start something," declares James Dykes, who spent 18 months in Taiwan before becoming president early this year of Signetics Co., the California chipmaking subsidiary of Philips of the Netherlands.

Until mid-1988, Taiwan had only two wafer fabrication facilities, or "fabs," where hundreds of chips are etched on silicon disks. Two others came on stream in the second half of last year, and this year's two additions will bring the total to six. Over the next couple of years, four more wafer fabs are slated to sprout up at the corners of a huge empty field in Hsinchu. If all of this planned capacity becomes reality, Taiwan's chip revenues could climb to \$3.1 billion in 1992, Dataquest Inc. calculates. "They're going to be a major force," predicts David L. Angel, director of semiconductor services at the San Jose (Calif.) market research company.

But the big push in chips entails equally big risks. Taiwan's startup chipmakers tend to be rather cocky—they haven't yet lived through the pain of the industry's periodic and seemingly unavoidable downturns. Moreover, nurturing a thriving chip industry will

mean abandoning the relative safety of custom circuits, which are produced in order for manufacturers of products ranging from telephones to toys. In addition to making these semiconductors, chip companies will be branching into the mass market for computer memory chips, and dynamic random access memory (DRAM) prices fall the steepest and hardest during slumps. "If some kind of minor recession occurs, the survival of one of these plants is in danger," warns Ronald Chwang, senior president of Acer Inc., Taiwan's largest computer maker.

TOUGH CROWD. Getting into DRAMs pits Taiwan against hardball Japan and Korean rivals, both of whom have shown they are willing to absorb losses to "buy" market share. The Koreans had to learn to play rough quickly, because, unlike Taiwan, they jumped directly into the hotly contested DRAM business. If either Japan or Korea alone both—decides to head Taiwan at the pass, "some of these companies are not going to make it," says Alexander Au, president of Vitelic Corp., a San Jose chipmaker that plans a \$100 million plant in Hsinchu. "People underestimate how much financial and technical resources are needed to be successful."

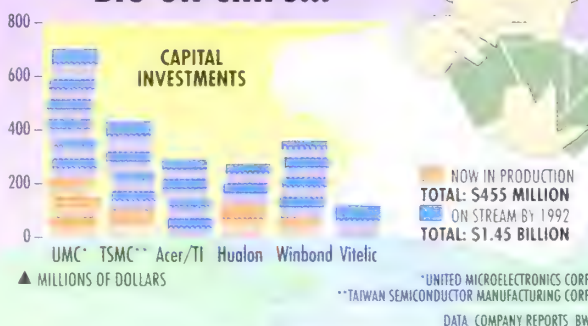
Today, though, such worries seem a distant threat. United Microelectronics Corp. (UMC) is raking in so many orders that its old plant, designed to produce

20,000 wafers a month, was groaning to handle as many as 60,000 before its second fab opened in June. Nonetheless, Hualon Microelectronics Corp. is also bursting its seams. Lacking enough offices for its new hires, a central courtyard is being roofed over.

The boom amazes C. M. Chang, a U.S. chipmaker veteran who came to Taiwan in 1985 to help launch the semiconductor industry.

Chang is chairman of UMC, Taiwan Semiconductor Manufacturing Corp. (TSMC), which started at government expense because sufficient private capital could not be obtained. Chang worries that the industry could be in trouble getting enough business to keep its factories busy. "It's going

TAIWAN IS BETTING BIG ON CHIPS...



...TO BECOME A MAJOR WORLD PLAYER





JUST SAY NO.

America is hooked on foreign oil. Today, we import almost 40 percent of the oil we use—even more than in 1973, when the Arab embargo plunged us into gas lines, rationing, and recession.

The more we can use nuclear energy, instead of imported oil, to generate electricity, the less we have to depend on foreign nations.

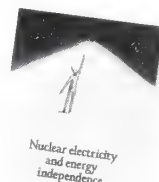
The 110 nuclear plants in the U.S. have cut our foreign oil dependence by over three billion barrels since 1973. And they have cut foreign oil payments by over one hundred billion dollars.

But 110 nuclear plants will not be enough to meet our growing electricity demand. More plants are needed.

To help kick the foreign oil habit, we need to rely more on

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U.S. COUNCIL FOR ENERGY AWARENESS

Nuclear energy means more energy independence.

take a lot of design ingenuity and marketing savvy," he says.

Two of Taiwan's bigger gamblers may find that a tough challenge, since they are chipmaking neophytes. Hualon Microelectronics and Winbond Electronics Corp. were both founded in 1987 by traditional low-tech companies. Hualon is owned by a big textile, insurance, and trading conglomerate, while Winbond's main shareholder is Walsin Lihwa Electric Wire & Cable Ltd. Formosa Plastics Group has plans to join the rush, too.

For all three, initial doubts were banished by the success of UMC and TSMC. Launched in 1980, UMC has been profitable every year since 1982, and after its initial public offering in 1985, it became a stock market darling. Last year, UMC netted \$26.4 million on sales of \$120 million, and it expects revenues to rocket to \$400 million next year. Similarly, TSMC, which is 27%-owned by Philips, turned profitable just 15 months after starting up in 1987. It expects 1989 sales to jump to \$85 million, up 250% from last year.

PAPER BAIT. Money is the honey for foreign newcomers such as Texas Instruments Inc., which in May formed a joint venture with Acer to build a \$250 million DRAM fab. Buoyed by healthy export earnings, the island's stock market has been soaring. Local companies find it easy to raise the cash for megabucks investments. Acer will tickle the market for \$140 million, mainly for the new fab. And UMC plans a \$100 million issue to finance its next expansion phase.

But the stock market craze also makes it harder to keep talented people. Taiwan companies routinely offer low-priced stock to all employees whenever a new issue is floated. With share prices rising so rapidly, workers can earn two to four years' salary by selling their shares in one company and jumping to another. "Now engineers are more interested in stock than in salary," gripes Liu Ing-dar, executive vice-president of UMC. The competition for engineers and managers is stiff because the island has only a tiny core of people experienced in chip-making. While a few Chinese-Americans have been enticed to Taiwan, the startups will have to poach people from nearby producers.

Taiwan and Korea launched their chip industries with different objectives, but their strategies are now converging—with both aiming to be major factors in volume markets. Today, most market studies lump the two under a catch-all, "rest of world" category. That aspersion will no doubt vanish when they outstrip every European country. "By 1991, Europe will be the rest of the world," says Klaus C. Weimer, the German-born U.S. citizen who heads TSMC.

By Dori Jones Yang in Hsinchu, Taiwan, with Robert Hof in San Francisco

People



DEFENDANTS

ERNEST SAUNDERS MARKETS HIS INNOCENCE

The former Guinness chairman bids for public sympathy

The tall, white-haired man waiting by the bar in a London restaurant used to be a fastidious dresser. But tonight he looks distinctly down at the heels. The top button on his blue shirt is undone, and his slightly crumpled maroon tie rests at three-quarters mast. The first thing out of his mouth is a complaint about his long, hot trip on the London Underground. "A bit of a change for somebody who used to travel everywhere in the back of a chauffeur-driven car," he says, driving home the point none too subtly.

Reacquaint yourself with Ernest W. Saunders. Once acclaimed for turning sleepy brewer Guinness PLC into the world's most profitable liquor combine, his comfortable world ended with a bang three years ago. Fired from his chairman's post, Saunders was widely pilloried as the architect of a scheme to manipulate Guinness' stock during its 1986 takeover of Distillers Co. He was soon arrested and charged with 49 criminal offenses, including various violations of

securities laws, theft, and falsifying or destroying documents. But the wheels of British justice grind slowly. Saunders, 53, is still awaiting trial.

Now this marketing whiz is vigorously promoting a new product: Ernest Saunders, Innocent Victim. With his trial finally set for January, Saunders figures it's a good time to present his version of events, and perhaps to gain public sympathy for his long, agonizing wait for justice. The centerpiece of his pitch is a new biography of Saunders by his 22-year-old son, James. Titled *Nightmare: The Ernest Saunders Story*, the book presents its hero as an unwitting victim of superslick financial advisers. "It's the only thing he knows—how to advise things, package them," says Norman Turner, Saunders' former lawyer. "Do you blame him for trying to put things to the public that he's not the evil guy he was painted at the time?"

But will jurors swallow a defense of blissful ignorance? Former Guinness colleagues and advisers recall him as

s-on boss who worked 18 hours a and drove his troops hard. He red managers at dozens of divisions and in every week's results, a big ge for Guinness and an unusual ice for a British conglomerate. "He in charge of every matter," says former Guinness executive who is an of Saunders. "He was the undis- d leader."

nce his downfall, Saunders' life has well, a nightmare. A man whom er colleagues describe as craving ant approval suddenly found him- a publicly excoriated villain. One that really brought home his fall: mantelpiece, piled six deep with ings and party invitations at Christ- 1985, was almost barren the next . In *Nightmare*, his son writes that ders went into an emotional tailspin

resulted in hospitalization stress. The book says ders' wife, Carole, suf- two breakdowns and lives e family's Swiss apart- . Saunders now has lots of time on his hands. He s with his lawyers, putters d the house, and some- visits bookshops for im- ptu book-signings.

employable, Saunders has l his financial woes mount- s the case drags on. Legal quickly used up about 00 in savings, and he sold family's \$1.3 million coun- ome to pay his bills. In on to the criminal case, also defending a lawsuit ht by the new Guinness gement. It seeks return of ret \$8.5 million payment

n connection with the Distillers n a deposition, Saunders said the y was paid to former Guinness di- Thomas J. Ward for services dur- ie bid. But the board never autho- the payment. Also, \$4.9 million of sh resided in Saunders' Swiss bank nt before being transferred to , who had the rest of the cash.

IN ASSETS. Saunders claims he kept of the money himself. Yet the new ess management got his family's h assets frozen in a so-far vain at- to retrieve some of the cash. In 1988, he finally won permission to oney from his children's trust fund y a small, \$300,000 house in Lon- But for several months, Saunders his family had to live "like gypsies, g from house to house and de- g on the charity of friends." Guin- says it's merely acting in the inter- f shareholders, but Saunders sees detta: "Guinness didn't just want me, they wanted to trample me." fall from grace was a stunning

reversal for a man who had overcome much adversity on his way up. Born Ernst Schleyer in Vienna, he arrived in Britain at age 2 with his Jewish family, which was fleeing the Nazis. Although the family changed its name and converted to the Anglican Church, Saunders remembers being taunted as a foreigner. Determined to fit in, he eventually made his way to Cambridge University. He then served stints in marketing at several companies, including J. Walter Thompson, Beecham, and Nestlé.

Recruited to head a hapless Guinness in 1981, he quickly revived sagging sales of the company's flagship stout beer with heavy spending on clever ads. He also disposed of more than 140 peripheral businesses. By mid-1985, pretax profits had more than doubled, to \$140.1 million. Anxious to vault Guinness into the

THE CHAIRMAN'S LENGTHY 'NIGHTMARE'

APRIL, 1986 Guinness beats rival bidder Argyll Group in contest for Distillers Co., paying \$4.1 billion in Guinness stock and cash

DECEMBER, 1986 Suspecting Guinness executives and advisers of manipulating the company's stock price to make its bid more valuable, British government inspectors launch surprise raid on Guinness headquarters

JANUARY, 1987 As scandal unfolds, Guinness directors fire Ernest Saunders as chairman and chief executive

MAY, 1987 Saunders arrested, spends night in jail

DECEMBER, 1988 Saunders receives legal aid after protracted battle to prove he cannot afford counsel

JANUARY, 1990 Trial of Saunders and six co-defendants scheduled to begin

big leagues in a hurry, Saunders that year paid \$605 million for Arthur Bell & Sons PLC, a midsize Scotch producer. Saunders, some say, proved he could play rough. To get information about Bell, according to people who worked on the deal, a Guinness employee even posed as a Scottish newspaper reporter to quiz Bell's chairman. Saunders denies any knowledge of the plan, but the employee says the boss was aware.

Five months later came the \$4.1 billion megabid for Distillers, at the time Britain's largest takeover. Then came trouble. The government charges Saunders and six co-defendants with lining up secret investors to buy huge numbers of Guinness shares, in violation of securities laws, during the takeover. Why would they bother? Because Guinness' offer was largely a swap of its shares for Distillers', and a counterbid from rival Argyll Group PLC threatened to scuttle the deal. When the value of Guinness shares rose, so did the value of its offer.

Saunders doesn't deny that there was

a scheme to inflate the stock but insists he knew nothing about it. He claims to have understood little about finance or takeovers and insists he was scapegoat for a government that was anxious to prove it could control London's free-wheeling markets. "I was always fundamentally a marketing guy," he says. "I delegated the bid tactics to people I trusted." The man "in charge" of the bid, he says, was Olivier Roux, the former Guinness finance director who will be a star prosecution witness at the trial. Roux, who was not charged in the case, declined to comment.

Saunders wasn't the only prominent loser. The scandal forced the resignations of the CEO and two other executives at Morgan Grenfell Group PLC, Guinness' investment bank. One of them, Roger Seelig, will be a Saunders co-defendant. Among the others who will join him in the dock: Gerald M. Ronson, owner of the \$1.2 billion-a-year Heron International PLC; Lord Spens, a former managing director at merchant bank Henry Ansbacher & Co.; and David Mayhew, a top executive at stockbroker Cazenove & Co. All have pleaded not guilty.

BOMBHELL. In part, Saunders has had to wait so long for a trial because the case is complex. He has also been embroiled in a battle to win government legal aid. Although he claims to be nearly destitute, the courts denied his application four times. Two sets of lawyers quit, fearing they wouldn't get paid. He finally won legal aid last December, and now has a third set of lawyers.

In April, the government dropped another bombshell. To simplify the complex case for the jury, it proposed to split the trial into two, probably arranging them by transaction. Only Saunders, who intends to fight the two-trial plan at hearings in September, would be in the dock for both. He wonders how the jury in the second trial could possibly be protected from hearing about the results in the first. He likens his situation to the surreal fiction of Franz Kafka.

Saunders' predicament is all too real, though. And soon he will face what could be his toughest marketing assignment yet: convincing 12 jurors that he shouldn't go to jail. Says Brian Basham, a consultant who worked closely with Saunders but later fell out with the Guinness chief: "I don't see how he can say, 'I revived this company single-handedly, but I didn't know anything about the biggest bid in U.K. history.' He's just too good to get away with that."

By Mark Maremont in London

LOOK WHO'S SETTING THE HOUSE ON FIRE

Newt Gingrich and his conservative cohorts are gaining ground with new social programs

Three years ago, when the Democratic majority in the House proposed raising the minimum wage by more than a dollar an hour, Representative Thomas E. Petri (R-Wis.) headed for the library. "I looked at 50 years of the history of minimum-wage fights," recalls the top Republican on the House labor subcommittee, "and it reads like a political set piece. Republicans say no. Then they lose. It was clear we couldn't fight without an alternative."

So, rather than stage the standard Republican nay-saying defense, Petri proposed a major expansion of the earned-income tax credit. Today, the minimum-wage increase is stalled after Bush's veto, but Petri's proposal, which provides cash subsidies to the working poor, is a major component of a child-care bill that is rolling through Congress.

It's a sign of the times that an idea sponsored by a conservative Republican has been widely embraced on Capitol Hill, particularly by liberal Democrats. House Republicans, ignored for years, have suddenly become a font of ideas. And by taking the initiative on a number of social issues, they have won some important political ground.

WAR OF IDEAS. Much of the credit for this transformation goes to Minority Whip Newt Gingrich (R-Ga.). Gingrich has received a lot of attention for his role as the House Republican pit bull who brought down former Speaker Jim Wright.

Gingrich has his own problems right now, as the ethics committee begins a probe of allegations that he violated House rules. But no matter what happens to him, he and his colleagues in the

self-styled Conservative Opportunity Society (COS) have given Republicans an appealing new image. They still are far from translating their nostrums into majority control of Congress. And they continue to promote such threadbare themes as a balanced-budget amendment to the Constitution. But they have gotten enough intriguing possibilities into the mix to take a lead in the political war of ideas, and they have the Democrats on the defensive.

These so-called Compassionate Conservatives describe their approach to social problems as one of "empowerment." Rejecting both traditional liberalism's love of big government and the do-nothing attitude of the Old Right, they advocate programs that will help the poor help themselves but keep both bureaucracy and administrative expense to a

ENTITLEMENT VS. EMPOWERMENT

Here's how the 'Compassionate Conservatives' would change the approach to some social problems

WELFARE AND RETIREMENT PROGRAMS

Traditional: Change formulas for entitlement programs. Index benefits to reflect inflation

CC: Earned-income tax credits for working poor. Index tax-free contributions to individual retirement accounts

HOUSING

Traditional: Rent subsidies for tenants. Federal redevelopment and rehabilitation grants for developers

CC: Rent vouchers for use outside of housing projects. Tenant-management programs. Sale of units to renters

SOCIAL AND LABOR PROBLEMS

Traditional: Regular increases in the minimum wage. Mandated benefits and labor-standards laws

CC: Expand tax credits for working families with children. Ease rules on working at home

EDUCATION

Traditional: Federal aid for a host of grants

CC: Tax-free IRAs for college tuition. Grants to school with open enrollment. Short-term grants for 'bootstrap' schools

HEALTH CARE

Traditional: Medicare for the elderly. Medicaid for the poor. Catastrophic-illness insurance programs

CC: More emphasis on home health care, medicare buy-in, risk pools for health insurance



GINGRICH: GURU OF THE NEW RIGHT

You've waited years to buy a new car. Don't blow it now.

They haven't invented the disposable car yet, though they've come pretty close.

Until they do, the car you buy today is the one you're going to live with for quite a while.

So don't get the wrong car.

Don't fall for one that looks impressive but isn't critical. Status won't help you on rain-slick roads or snow-clad hills. Saab's front-wheel drive will.

Don't settle for a boring car for safety's sake.

Any Saab owner will tell you a Saab's more fun to drive than anything remotely comparable. Yet a recent insurance industry report ranked Saabs first in nearly every class in frequency of personal injury claims.

Don't pay a gas guzzler's tax just to get performance.

Three stock 9000 Turbos averaged 132 mph for 62,000 miles in 21 days straight driving without a breakdown. Yet this same powerplant uses Saab's Automatic Performance Control to achieve efficiency you'll be glad you have when the next gas crunch comes.

Look at it this way.

There are a lot of cars out there with *some* of what Saab offers. But if you want it *all*, test drive a Saab before you take the plunge.

You've come so far.

Don't blow it now.



SAAB

The most intelligent cars ever built.

Prices are intelligently priced from \$16,995 to \$32,095. 900 Turbo shown here: \$24,345.

Manufacturer's suggested retail prices not including taxes, license, freight, dealer charges or options. Prices subject to change. © 1989 Saab-Scania of America, Inc.



Government

minimum. The idea translates into expanded tax credits for child care and the working disabled, tenant management of public housing projects, rent vouchers for people who want to escape drug-infested neighborhoods, and stronger affirmative-action policies.

"Our approach begins with the individual and works back up to the government, rather than having the government hand out the goodies," says Representative Steve Bartlett (R-Tex.), chairman of the House Republican Research Committee's empowerment task force. Adds Gingrich: "Giving some people enormous power and calling them bureaucrats, and depriving other people of power and making them clients of the bureaucracy, rather than citizens, is in the long run debilitating and corrupting."

REPAINTING HUD. The Republicans are beginning to put this philosophy into effect at the scandal-soaked Housing & Urban Development Dept. At HUD, the combination of Reagan antigovernment rhetoric and the continuation of traditional subsidy programs led to a catastrophe of fraud and corruption. Now,

under the leadership of Secretary Jack F. Kemp, another pillar of the new right, HUD is the perfect place for conservative experimentation.

A trademark of the new conservative movement is that badmouthing the Reagan record is no sin. Gingrich and his

colleagues can say what George Bush can only imply. For example, says Gingrich, "one of the gravest mistakes the Reagan Administration made was failing to lead on civil rights." The Georgia congressman, whose suburban Atlanta district is 95% white, says that Reagan's failure to recruit blacks and other minorities left the Republican Party "too small, too unprofessional, too weak."

ASTUTE IDEAS. Many policy experts think the New Right is on to something. "These ideas have a lot of merit and a lot of appeal," says Margery A. Turner, director of housing research programs for the Urban Institute, a centrist think tank. "They reflect the hopes and fears of minorities." Adds Henry Aaron, a top welfare official in the Carter Administration: "In a certain profound sense, the conservatives are absolutely right. The idea of encouraging work, giving people a stake in their neighborhoods, is astute. This is exactly what Republican planners should be doing if they want to expand their political base."

For all their ideas, though, he



WEBER: MOVING UP IN THE HOUSE LEADERSHIP



Republicans still have some holes in solutions. The COS crowd, for example, is calling for demonstration projects—jolts of seed money without term funding—for everything from day-care programs that help parents and children to special “bootstrap” grants for inner-city schools. These three-year experiments sound great, but they raise the question of what the Republicans would do if one or more of the demonstrations succeeds. Sneers one Democratic aide: “It’s an empty bucket. They can propose this stuff out there wazoo. But they won’t spend the money to make the programs work on a large scale.”

One of the problems for the new conservatives is that they can’t appear to be budget-busters. COS members were instrumental in getting the Gramm-Rudman balanced-budget act passed in 1985. Now, some of their cleverest ideas involve finding ways to evade the budget cuts imposed by the law.

CREED. Drug-war bonds, a brainchild of House Republican Conference Chairman Jerry Lewis (R-Calif.), are a good example. Under the proposal, a drug czar William J. Bennett has enthusiastically embraced, proceeds from the sale of special savings bonds would go into an off-budget trust fund

to pay for drug interdiction and education efforts. But the Treasury Dept. remains cool, and Democrats dismiss the idea as something of a gimmick. Economist Isabel Sawhill of the Urban Institute calls it a “charade.” Says Sawhill: “It would increase government borrowing, Gramm-Rudman or no Gramm-Rudman.”

‘Making people clients of the bureaucracy, rather than citizens, is in the long run debilitating and corrupting’

Some of the other ideas of the conservatives, such as a major expansion of tax-deferred savings accounts, would open huge holes in the Treasury while posing as self-help on the cheap. Other proposals, such as a Presidential blue-ribbon panel to reexamine the taxation of savings and investment in the U.S., are out of the Democratic playbook. And some ideas are just plain weird, such as a requirement that congressional committees file “family impact” statements. Modeled on environ-

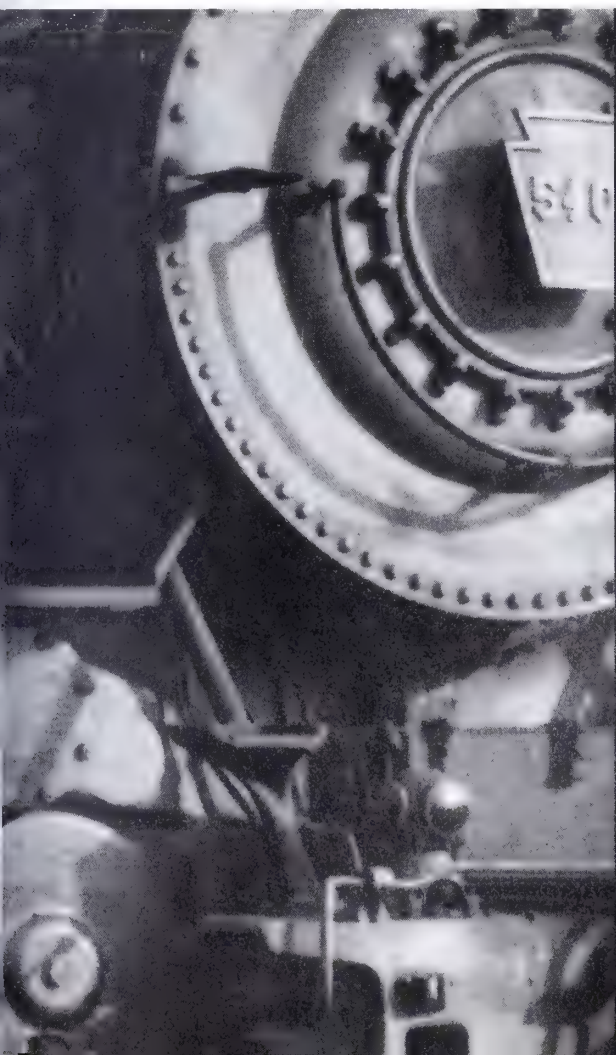
mental-impact statements, they would detail the effects of pending on American families.

Dubious suggestions have never been in short supply on Capitol Hill. But since the Presidency of Franklin D. Roosevelt, the GOP response to Democratic social programs has generally ranged from “no way” to “less of the same.” The new creed is that government can be molded to achieve conservative solutions to social problems.

What’s more, Gingrich and his band are now part of the Establishment in Washington. Figures such as Kemp and Defense Secretary Richard B. Cheney (who previously held Gingrich’s post) are in the Administration. And Representative Vin Weber (R-Minn.), a COS founder who is credited with many of its best ideas, is poised for a move into House leadership ranks. They all have more of a stake in making things happen.

“A party that says it has no answers is going to stay in the minority for a long time,” Gingrich says. Right now, the answers from Gingrich’s side are flowing fast and furious. And unless they respond in kind, Democrats, clinging to tatters of the New Deal and the Great Society, may find their majority is less permanent than they think.

By Douglas Harbrecht in Washington



Guess who already made a fax when a post card from Chicago to Los Angeles took 6 days?

Toshiba was a “high-tech, state-of-the-art” company long before those fancy labels sprang into vogue.

But, over 45 years ago our first fax machine was considered simply a “dandy contraption.”

Of course when you’ve been innovative for that many decades, the results can be remarkable.

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WHAT WILL THE MARKET DO FOR AN ENCORE?

The corporate earnings boom is over—and stock prices now depend on falling interest rates

Where does it go from here? That's always the question on Wall Street. But with the Dow Jones industrial average up a staggering 500 points this year and other stock averages vaulting to record highs, investors are wondering if it's time to move to the sidelines and enjoy the profits. Declining interest rates and a buoyant buyout boom can still drive equities higher. But corporate earnings will be of

ing the second quarter vs. the same period in 1988 (page 106). Profits for the companies in the Standard & Poor's 500-stock index are expected to be up 9% for the year as a whole but are now projected to grow less than 3% in 1990, according to the Institutional Brokers Estimate System. So how will the stock market continue to climb if profits don't?

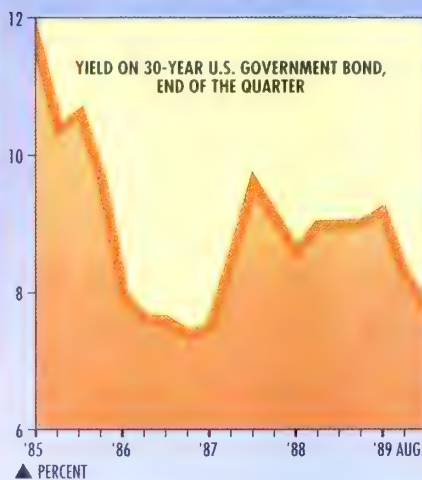
The hope lies in lower interest rates. Falling yields on fixed-income securities

Stocks could continue to climb in concert with sliding interest rates. But if rates fall too far too fast, it could mean that the bond market anticipates a recession. "At that point, what causes bonds to rally may not be interpreted as good news for stocks," says Stanley J. Salvigsen, chairman at investment adviser Comstock Partners. Indeed, on August 1, when a downbeat reading from purchasing managers around the country

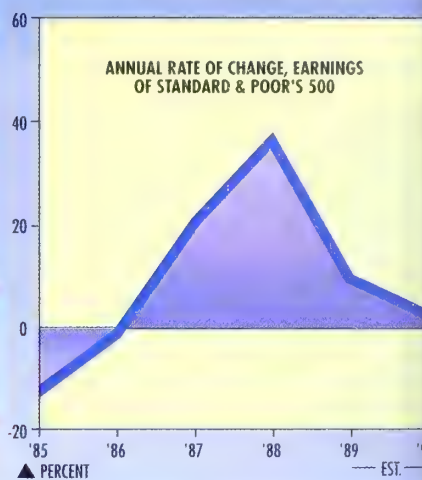
PRICE-EARNINGS RATIOS ARE STILL MODEST...



...AND INTEREST RATES ARE COMING DOWN...



...BUT PROFIT GROWTH IS FALTERING



DATA: SHEARSON LEHMAN HUTTON INC., DRI/MCGRAW-HILL, INSTITUTIONAL BROKERS ESTIMATE SYSTEM

no help, and indeed, may even act as a depressant.

In the past few months, the bulls have taken comfort in one simple notion: Even if the market averages look like they did in the months before the crash, the level of corporate earnings is far higher today. That means the market's price-to-earnings ratio, at 13, is far lower than it was two years ago (chart). This valuation measure reassures the bulls that stocks are more reasonably priced.

But the earnings explosion that helped the market recoup after the crash may be over. Second-quarter earnings reports are rolling in, and instead of fat double-digit gains, earnings increases are in the paltry single digits. For the 900 companies in BUSINESS WEEK's Corporate Scoreboard, earnings grew only 2% dur-

reduce their attraction to investors, who then turn to equities. Lower rates could also lead giant pension funds that practice tactical asset allocation to shift billions of dollars into the stock market. Reduced financing costs also add fuel to the merger-and-acquisition game.

QUALITY EARNINGS. Since mid-March, the market has received a hefty dose of falling-rates medicine. And since the yield on the benchmark 30-year U.S. government bond peaked near 9.4%, interest rates dropped some 1.6 percentage points. The Dow climbed 17.5%, the S&P 500, 19.2%, and the market's p-e ratio rose from 11.4 to 13 based on the past 12 months' earnings. Since each percentage-point drop in interest rates usually expands the market p-e by one, the rise could be due to the decline in rates.

led to one of the year's biggest bond market rallies, the Dow declined almost 20 points nonetheless.

Even if economic growth continues and the U.S. avoids a recession, sluggish growth in the quantity of earnings is prompting investors to look more closely at the "quality of earnings." Company by company, that's a painstaking process in which analysts try to discern, for instance, if profits came from growth in unit sales, a "high-quality" source of profit, or a rise in the value of inventories, a "low-quality" source. Earnings from better product engineering or clever financial engineering?

"Now is the time when corporate managers pull out all the stops to show some kind of increase," says David W. Tice, a Dallas CPA who writes *Behind the Numbers*.

a newsletter for portfolio managers. Adds Thornton L. O'Glove, publisher of the *Quality of Earnings Report*: "There's no question that quality is improving."

The quality picture isn't any more engaging on a macroeconomic scale. For example, aftertax corporate earnings, which the Commerce Dept. then adjusts for changes in the value of inventories and for over- or under-depreciation of assets. These adjustments attempt to neutralize the impact of inflation on reported profits, to arrive at "real profits."

Starting in 1983, real profits rose far above reported profits, and at the end of 1986, the ratio of real profits to reported was a remarkable 1.6. Why? The 1981 tax act allowed companies to deduct depreciation. By 1986, inflation slowed so much that companies were writing off assets far too quickly. The ratio has been declining ever since, and reported profits and real profits are now about even. But by next year, real profits will be below those reported—a condition that existed much of the 1970s. Says Melissa Brown, a quantitative analyst at Prudential-Bache Securities Inc.: "The quality of earnings is going to keep the price-earnings ratio getting much higher."

PORT ZONE? Earnings, schmearnings, cash flow that counts, right? Maybe, but valuing the stock market by cash-flow yardsticks doesn't improve matters. Market analyst Elaine M. Garzarar of Shearson Lehman Hutton Inc. calls the price-to-cash-flow ratio for the S&P 500 at 7.1. The 1987 peak was 10. Money manager Kenneth S. Hackel says to look at free cash flow. That tells you what funds companies have to buy back shares or boost dividends. The market, says Hackel, is now selling at more than 27 times free cash flow "and is overvalued." He's been taking profits.

In the short run, the market's valuation picture isn't going to win any beauty contests. "Don't assume because the price is high that you're in the comfort zone," says Warren Shaw, a managing director at Chancellor Capital Management. Shaw considers stocks "a bit overvalued," but he remains bullish because interest rates and investors' ample cash reserves.

Most analysts would argue that, barring a recession, the downside risk for stocks is not great. And even with profit-taking, Garzarelli says that the market is still could reach 3000 this year. Garzarelli may well be right. But until interest rates continue to fall—with the economy tumbling into recession—the fundamentals suggest that stocks will have a tough time going higher.

by Jeffrey M. Laderman in New York

SMALL INVESTORS TIPTOE BACK TO WALL STREET

They're dabbling again—in safe equities and stock funds

As the stock market surged in recent weeks, there were numerous sightings of a species that has become as rare on Wall Street as short-nosed sturgeon in the Hudson River: the *homo investicus*, or small investor. If this excitable though docile breed has returned in the vast herds that were commonplace just before Bloody Monday, the market may not be as healthy as it seems. After all, small-time investors tend to clamor for stocks when rallies are about to end.

The small fry do seem to be returning to equities—but, thankfully, individual

ly," says Bruce W. Nollenberger, a senior vice-president at Sutro & Co., a San Francisco brokerage. "Retail isn't nearly as significant in volume" as it was before the crash, says John H. Goldsmith, CEO of Tucker, Anthony & R. L. Day Inc. "Investors still are scared to get in."

This continued caution is nowhere more evident than in equity mutual funds. Stock funds fueled the market's joyride from 1982 to 1987, but in the latest rally, fund investors have been fair-weather friends—buying gingerly when the market rises and cashing out when it doesn't. Nationwide, sales ex-



investors are not buying stocks with anywhere near the passion that predominated two years ago, as the Dow Jones industrial average surged to 2722. True, business is picking up at retail brokerages, including discounters catering to small-timers (page 100). And stock mutual funds are attracting more interest than they have since the crash. But for the most part, small investors are on the sidelines.

GREED VS. FEAR. The reason for this wariness, apparently, is that investors remember all too well what happened a couple of months after the market's August, 1987, peak. A survey by BUSINESS WEEK shows that while investors are exhibiting more interest in buying stocks, they remain chary about plunging into the market. "Like a person recovering from a stroke or heart attack, [small investors] are coming back—but slow-

ceeded redemptions in January, April, and May—all "up" months for the market—but redemptions topped sales in February and June, when the market declined. In March, redemptions predominated despite a rising market (chart).

Overall, redemptions exceeded sales of stock funds by \$1.6 billion in the first six months of 1989. "We don't have anything near the euphoria of the summer of '87," says Michael Hines, vice-president for marketing at Fidelity Investments in Boston. At Fidelity, the largest fund group, sales began to exceed redemptions last December—and as in the rest of the industry, net sales figures have varied widely ever since.

While the famed Fidelity Magellan Fund is selling strongly, less prominent funds are a much tougher sell—especially if they invest in riskier issues and small-company stocks. At Massachusetts

Financial Services Co.'s mutual fund group, net redemptions actually increased over last year for the group's 14 equity funds, to \$254.1 million in the first six months of 1989, from \$138 million a year ago, despite strong performance by most of the funds. "People are really steering away from the aggressive funds," says John F. Reilly, a spokesman for MFS. At Pioneer Fund Inc., equity-fund sales only began to exceed redemptions in the second quarter of 1989. Says Anne W. Patenaude, Pioneer's vice-president for marketing programs: "There's the sense that investors' fear and caution are conflicting with their greed."

When small investors do buy stocks and stock funds, they tend to be conservative. Blue chips and utility stocks are popular, over-the-counter stocks are not. "They're purchasing very high-quality stocks, the bluest of the blue chips," says John Bachmann, managing principal of Edward D. Jones & Co., a St. Louis brokerage with 1,452 offices throughout the country. In contrast with the period before the crash, investors are no longer "looking to make a fast buck.... It's a much more intelligent investor," says Harold Evensky, president of Evensky, Brown Investments Inc. in Coral Gables, Fla.

'HINDSIGHT.' One factor that's helping to overcome investor malaise is the decline in yields that has beset the traditional sanctuaries for conservative investors—Treasury bills and certificates of deposit. By contrast, the summertime rally of 1987 was preceded by a sharp increase in interest rates. C. Edward Gasaway, a broker with Roney & Co. in Kalamazoo, Mich., notes that some income-seeking investors have been buying utility stocks, because in some cases the yield is better than that being paid by CDs. The overall market may also be fed by the downturn in CD rates. "I think as CDs mature, [small investors] are beginning to place some of those funds back in the market," says J. Burner Crew, a broker with Shearson Lehman Hutton Inc. in Cleveland.

Indeed, the more interest rates decline, driving down CD and T-bill yields, the more likely it is that individuals will return to the market in droves. And by that time, it may be too late. "Investors are notorious for having 20/20 hindsight," says Don W. Ceglar, vice-president of Pacific Investment Management Co. in Newport Beach, Calif. All too many bought when the market peaked—and sold when it crashed. So if small investors really do return, it may well be a sign that it's time to get out.

By Gary Weiss in New York, with bureau reports

A SWEETER RIDE FOR DISCOUNT BROKERS

When Charles Schwab & Co., the nation's largest discount brokerage, polled 2,500 of its customers nearly a year ago, a scant 12% said their confidence in the stock market had increased since the crash. A second Schwab survey in mid-July, though, reported a striking difference: 39% said they were more confident.

That was heartening news for San Francisco-based Schwab. Nobody on Wall Street depends more on the individual investor than discount brokers. Trades from small investors make up nearly all of their business, and they handle about 20% of all retail transactions on the Big Board.

FAITH. And that uptick in optimism is starting to show up in Schwab's numbers. In the second quarter, the firm executed 35% more customer trades than it did in the final three months of 1988. Its customer assets grew to \$22.3 billion from \$17 billion over that same period. This flurry helped boost Schwab's second-quarter net income to \$4.2 million, or 15¢ a share, up from \$2.1 million, or 8¢ a share, a year ago.

Revenues were \$139 million, up from \$96 million in the same 1988 period.

With investors' faith in the market growing, there is still room on the upside for Schwab. Its customer accounts have grown to 1.3 million from 1 million at the time of the crash, and it has added 5 offices for a total of 109. But significantly, its customers are less active than they were before the market collapse. The firm says they trade on average slightly less than three times a year, compared with six or seven during the bull market of 1986 and in the first nine months of 1987. Investors' daily buy and sell orders are now averaging 11,900, still far below the 17,000 for all of 1987. Schwab gained 700 trades a day when it acquired Rose & Co., a Chicago-based discount, from

Chase Manhattan Bank early this year. Right now, Schwab's customers have placed a hefty \$6.8 billion in cash money market accounts with the firm, up from \$5.3 billion at yearend. Says Chairman and Founder Charles Schwab: "There's been a huge cash buildup. We're coming out of a high apathy period."

Business has also improved at Quick & Reilly Group Inc. and Fidelity Brokerage Services, the two largest discounters after Schwab. Thomas C. Quick, president of New York-based Quick & Reilly Inc., says the firm's business is up 25% compared with this time last year. Revenues grew from \$18.7 million to \$23.5 million. "With interest rates lower than a year ago," Quick says, "there is less of a return from fixed-income products, and people are feeling more comfortable investing in stocks." Fidelity's discount brokerage revenues and trading volume are up 20% over last year, says David Cariseo, the division's president.

NO MAD RUSH. Schwab and Quick & Reilly, the two major publicly traded discounters, have also seen results in their stocks' recent performances. They're sharing in the comeback of the securities industry (p. 136). Schwab's stock is nearly at its September, 1987, initial public offering price of \$16.50 a share. The stock has more than doubled since the beginning of the year.

Despite the pickup in order flow, there has been no stampede by small investors. The discounters don't seem to mind it. They have grown distrustful of wild booms in market activity because they are invariably followed by market breakdowns. "The last thing we want is a frenzy," says Schwab. "We like our growth long and steady."

By Jon Friedman in New York, and Jonathan B. Levine in San Francisco



SCHWAB: "WE'RE COMING OUT OF A HIGH APATHY PERIOD"



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AMERICAN EXPRESS SLINGS MUD—AND GETS SPLATTERED

Behind the smear campaign against financier Edmond Safra

It's no secret that legendary Lebanese financier Edmond J. Safra and American Express Chairman James D. Robinson III are the best of enemies. The pair has been engaged in a bitter feud ever since AmEx purchased Safra's Geneva-based Trade Development Bank for \$550 million in 1983, only to find many of its well-heeled clients defecting to other Safra-run banks. But the depth of animosity had never been plumbed until July 28, when AmEx admitted responsibility for what it calls a "shameful" and "baseless" smear campaign

AmEx' actions have left Wall Street mystified. The affair has also upset employees at AmEx, which has nurtured a squeaky-clean corporate image.

Robinson and Safra have declined to comment. But one source says Robinson didn't know of the AmEx rumor campaign until Safra complained in March—and he then ordered it stopped at once. Still, unflattering rumors and newspaper stories continued to circulate for two months more until, the source says, Robinson again demanded the campaign be halted.

EDMOND SAFRA'S BANK HOLDINGS

REPUBLIC NEW YORK CORP. (33% interest) Holding company for Republic National Bank of New York

ASSETS \$25.7 billion **VALUE OF SAFRA'S INTEREST** \$500 million

SAFRA REPUBLIC HOLDINGS (36%*) European private banking group

ASSETS \$4.7 billion **VALUE OF SAFRA'S INTEREST** \$294 million

SAFRA BANK (100%) Miami commercial bank

ASSETS \$224.5 million **VALUE:** NA

SAFRA BANK (CALIFORNIA) (100%) Encino commercial bank

ASSETS \$94 million **VALUE:** NA

*Directly and indirectly through Republic New York's 49% interest
DATA: REPUBLIC NEW YORK CORP.,
SHEARSON LEHMAN HUTTON INC., AMERICAN BANKER

seeking to tie Safra and his \$30 billion banking group to drug smugglers, money launderers, and illicit arms traders.

To settle the latest outbreak, Robinson issued an unusual written apology, citing Safra's "well-deserved, excellent" reputation. American Express Co. also will donate \$8 million to four of Safra's favorite charities. AmEx originally offered \$4 million. But Safra's Republic New York Corp. (table) then demanded \$4 million more for legal expenses. AmEx balked but agreed to donate the extra amount to charity. Still, Robinson did not explain who authorized the campaign, which coincided with an AmEx effort to persuade Swiss officials to deny Safra a banking license, a risky proposition in a country where Safra is highly regarded.

SWISS CHILL. In a letter to Robinson, Safra says he believes the AmEx chairman wasn't involved in the campaign. But in his apology, Robinson attributes the effort only to unidentified "persons acting on behalf" of AmEx. Confusion over



"This conduct will neither be condoned nor accepted," he wrote Safra, and the campaign "must never be revived."

Relations weren't nearly so tense when AmEx decided to get into the Swiss private-banking business six years ago by purchasing Safra's bank. Initially, Safra stayed on with the bank, a unit of \$16.5 billion (assets) American Express Bank Ltd. But he chafed at AmEx' bureaucratic infighting and said to have objected to its attempt to sell American Express cards to Trade Development Bank's secretive clientele. Safra was further upset when AmEx' stock fell sharply in early 1984 after its Fireman's Fund Corp. insurance group reported a large loss. Safra accepted \$177 million in AmEx stock warrants in partial payment for the bank. Disgusted with the price drop, he sold his AmEx holdings at an estimated \$135 million loss and quit the company.

SAFE HAVEN. When he left, Safra agreed not to compete with AmEx until 1985. As part of his departure agreement, he bought back Trade Development Bank's French subsidiary, which he soon placed under the Republic corporate umbrella. By 1986, he had opened Republic units in Gibraltar, Guernsey, and Luxembourg. Then, in 1987, he started laying plans to open a Geneva when the noncompete deal expired. That's when some 20 Trade Development Bank employees jumped ship.

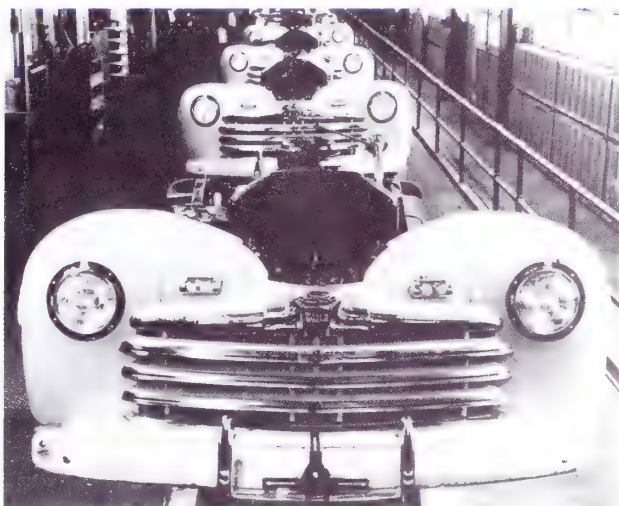
Concerned that Safra had broken the agreement, AmEx began collecting information on the banker. "They got carried away," a source says, and started spreading the rumors that appeared in newspapers in Latin America, Italy, France, and Switzerland. Despite a disinformation campaign and filings by AmEx before the Swiss Federal Banking Commission, Republic won a license in early 1988.

A few months later, Safra reorganized Republic's European units into a publicly held private banking group, Safra Republic Holdings, valued at nearly \$5 billion in assets. Safra himself contributed \$200 million.

He also hired famed Wall Street attorney Stanley S. Arkin to investigate the origins of the rumors. Two likely reasons for that move: Safra, whose banks are widely regarded as a safe haven for more than \$6 billion in deposits from

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BusinessWeek
THERE IS NO SECOND PLACE.

Latin America, Europe, and the Mideast, feared the smear campaign would scare away clients just as he was rebuilding his European base. And the campaign appears to have depressed the price of Safra Republic Holdings shares. Since their listing on European stock markets at \$57 last fall, the shares have fallen to \$49. Says Shearson Lehman Hutton Inc. analyst Rodney S. Schwartz: "Every time a new story would come out, the stock would go down a little."

RICH ACCOUNTS. Arkin won't comment on his Republic assignment. But by March, sources say, Safra was convinced that the campaign emanated from within AmEx and complained to Robinson. Then, another source says, Safra hit the roof when an item appeared two months later in the respected Swiss weekly *L'Hebdo* contending that the names of Safra and two aides were found in the telephone book of a man under indictment in Italy for money laundering. Safra sued *L'Hebdo* for defamation. The newspaper would not comment on the allegation, but a reporter there says that last spring, his paper and others received calls from individuals identifying themselves as "foreign journalists" offering information about the banker.

About the same time the *L'Hebdo* article appeared, Arkin published a column in the daily *The New York Law Journal*, the newspaper of record for the city's legal community. The piece outlined a hypothetical attempt by a company, whose chairman "cherishes his Boy Scout image," to spread false information about a competitor. Arkin maintained such an effort could amount to criminal fraud. Republic sent the column to AmEx. "There was a message there," says an insider. After reviewing the column, Robinson hired outside attorneys to investigate. They advised that the disinformation campaign had to cease, and Robinson quickly settled with Safra.

But they remain fierce rivals for the assets of the world's rich. Safra's business has been growing at a 15% compounded annual rate since the mid-1980s. He has been especially successful in attracting accounts totaling \$100,000 or more, which now comprise two-thirds of Republic National Bank of New York's \$17 billion in worldwide deposits.

Thomas F. Robards, Republic New York's treasurer, insists Safra is "not stepping on anybody's toes" as he continues to press for growth. AmEx obviously saw things differently. In his letter of apology, Robinson says he believes in "vigorous competition." But not this vigorous. Until a culprit is revealed, expect the Robinson-Safra spat to remain the talk of the banking world.

By William Glasgall and John Meehan in New York, with Blanca Riemer in Paris and Jon Friedman in New York

Inside Wall Street

BY GENE G. MARCIAL

DATAPRODUCTS IS IN PLAY, BUT WHERE ARE THE PLAYERS?

For a stock that's definitely in play, Dataproducts isn't acting the role. Although DPC Acquisition Partners has acquired a 7.8% stake, shares of Dataproducts, a major producer of computer printers, supplies, and components, have tumbled from a 1989 high of 17 in April to just above 12. Why? Analysts think there won't be many eager takers since the computer-peripherals business is on the skids.

But some savvy pros expect quick moves soon by Dataproducts, which is holding its annual meeting on Aug. 24. Dataproducts Chairman Jack Davis won't say whether he will have some good news for the meeting, but the betting is that a deal, either for the sale of the entire company or just some of the units, will be announced soon.

One reason is that DPC Acquisition Partners, which signed a standstill agreement in exchange for access to information, may well come up with its own offer. Dataproducts had rejected last October its offer of \$15 a share. In addition, "several foreign companies—Japanese, European, as well as other Asian companies—have expressed interest," says one New York money manager. Sy Goldblatt, chairman of S Squared Technology, estimates the takeover value of Dataproducts to be around \$20 a share.

THIS INSURER MAY BE UP FOR GRABS

Although it ranks in the top 5% in size among U.S. life insurance companies, Kentucky Central Life Insurance Co. is virtually unknown on Wall Street. Kentucky reported an improved second quarter, but that's not the big reason for the stock's rise to 17 from 12 in March.

Some smart-money investors are betting on the possible sale or restructuring of Kentucky. They put its breakup value at \$35 a share. Kentucky owns other businesses such as a TV and two radio stations and an orange grove.

The sale or restructuring could be spurred by the resolution of a lawsuit filed in 1985 by the heirs of the company's founder Garvice Kincaid, who died

in 1975. The heirs allege that the trustee, Central Bank & Trust Co. in Lexington, Ky., and its advisory board have delayed settling the estate in their own gain. Under a trust agreement, the advisory panel, headed by Kentucky Chairman William Burnette Jr., controls the voting power of shares held by the trust, 83% of Kentucky's 960 voting common shares. The other advisory committee members are trustees of Kentucky, plus one director of Central Bank & Trust. Burnette declined to discuss the lawsuit.

"A number of lawyers are of the opinion that the terms of the trust don't preclude the sale of the company's stock," says investment manager Mark Boyar, who owns about 3% of Kentucky's 13.5 million shares of class A stock. Once the lawsuit comes to trial, he says, it will reveal "define conflicts of interest" between trustees and the heirs.

The conflicts, says Boyar, may prove embarrassing enough to persuade Burnette to either settle with the Kincaid heirs by buying them out or sell the company. A number of insurance companies are said to be interested in acquiring Kentucky. In 1978, American General Life Insurance Co. offered \$17,500 for each share of the voting common stock, then valued at \$600 a share. The board rejected the offer.

A CLEAR SHOT AT CRYSTAL OIL

One of the cleverest money managers around, George Soros, may wind up with control of an oil company without much hassle at about half its private-market value. The company is Crystal Oil, 42% of which was owned by Harken Oil & Gas and 19% by Soros Fund Management.

Soros' key to controlling Crystal was his 20% stake in Harken itself. But Harken wanted to buy Soros out, and he agreed to sell his 6.9 million shares on July 17, for \$4.25 a share—close to what the shares were then selling for. But the deal didn't end there: Soros also persuaded Harken to sell him a 42% stake in Crystal, at about \$1.85 a share; the stock is trading at 29. "Crystal is worth at least \$5 a share," says Gerry Angulo, president of Financial Capital Advisors, who has a 3.2% stake. Added to his 19%, Soros would have a 61% stake. Part of Crystal's allure is its \$270 million tax-loss carryforward, says John Boland, editor of the newsletter *Bankruptcy Values*.

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IT'S A SOFT LANDING

SECOND-QUARTER EARNINGS GREW ONLY 2% — BUT THE OUTLOOK IS MORE

Ever since Bloody Monday, pundits tracking corporate profits have waited for the high-flying economy to fall out of the sky. And waited. But for seven straight quarters, corporate profits have climbed, albeit at a slower rate this year. Now, "soft landing" has become the catchword of the day, describing an economy that slows down but doesn't plunge into recession. Is the metaphor apt? Second-quarter profits would seem to say so.

Earnings for the 900 companies in BUSINESS WEEK's Corporate Scoreboard, compiled by Standard & Poor's Compustat Services Inc., grew just 2% compared with the second quarter of 1988. That meager increase doesn't mean profits have crashed. After last year's raging 31% growth, profits slowed to a respectable 15% increase in the first quarter, adding up to a 7% gain for the first six months of this year.

An earnings growth rate of just 2% may be deceptively low. After all, last year's second-quarter growth of 96% was a tough act to follow. Write-offs marred several industries. In oil and gas, for instance, Exxon wrote off \$850 million for the Valdez oil spill, and Mobil sold its South African assets at a \$140 million loss. The write-off knocked Exxon from its traditional slot among the nation's profit leaders.

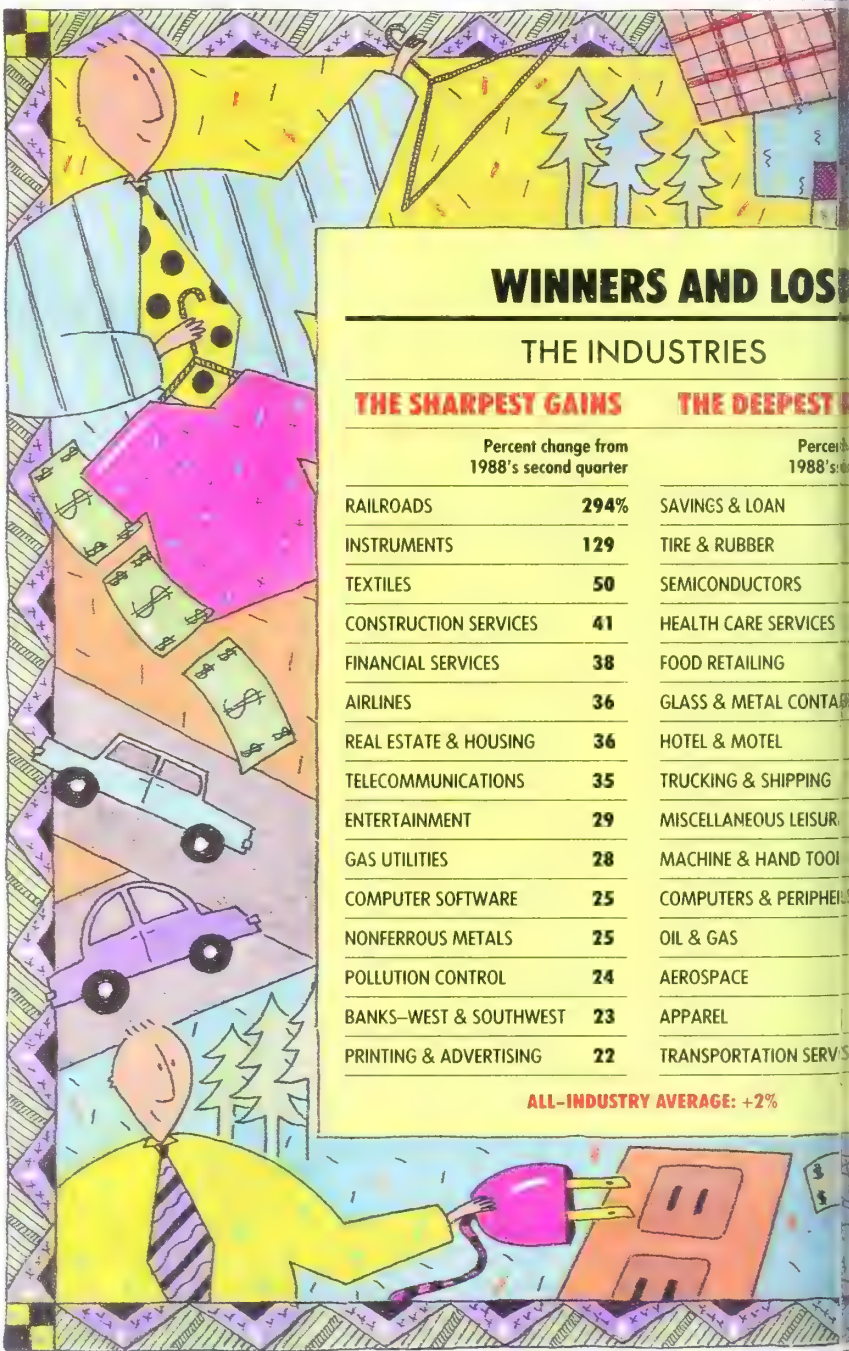
STALLING IN DETROIT. The profit environment isn't likely to worsen soon. The strong dollar, rising energy bills, and increased labor costs have squeezed margins. But while profits have lost their thrill on the upside, they aren't likely to raise heartbeats in the other direction. With inflation in check, the Federal Reserve Board has kept a rein on interest rates, easing for now what many saw as a major threat to bottom lines. Says Steve Einhorn, chief investment strategist at Goldman, Sachs & Co.: "It's encouraging that we have an economy slow enough to curb inflation but not so slow as to cause broad-based earnings collapse." The consensus among analysts is that the second half should slightly outpace the first.

Make no mistake—the slowdown is real. And it put the brakes on the automotive sector. The 8% drop by the Big Three was the steepest in two and a half

years. Ford Motor's 15% decline led the way. A glut of cars on dealer lots will force production cutbacks, clouding the second-half outlook. As goes Detroit, so go many of its suppliers: Tire and rubber profits skidded by 58%, while trucking and shipping was off 30%. Alumi-

num prices are declining, and steelmakers are bracing themselves for a downturn.

That didn't stop the metals companies from enjoying what analysts say is one last hurrah in the second quarter. While slouching demand and flin-



PROFITS

THE SECOND HALF OF THE YEAR

threaten future profits, metals companies are still filling capacity. Aluminum Co. of America, with smelters running full blast, saw earnings rise. Steel margins rebounded from the quarter, as raw-material prices softening helped USX and National Inter-

group achieve heady increases. The steel sector was down 1%, but that was largely due to onetime write-offs at Inland Steel Industries and Bethlehem Steel, not a fundamental industry weakness.

Indeed, most basic commodity prices held firm. Georgia-Pacific's profits grew

46% on the strength of pulp and paper demand. Dow Chemical, Du Pont, and Monsanto kept their plants humming and turned in double-digit earnings growth. Flush with cash, plenty of companies are spending on modernization and some new capacity. That has helped buttress special machinery makers, such as Harnischfeger Industries and Ingersoll-Rand, which were up 19% and 31%, respectively. Down on the farm, rising land prices have boosted farmers' confidence and equipment orders. Deere & Co.'s earnings soared 51%.

Despite the dollar's strength, a source of widespread concern, buoyant overseas demand offset the unfavorable exchange rate in a number of industries. Pharmaceuticals, despite trouble at Pfizer, grew 11%, spurred by foreign demand. Coca-Cola, which earns more than half its profits overseas, was up 14%.

Other noncyclical sectors fared just as well. If smokers are smoking less, they're paying more to support their habit. Philip Morris' profits rose by a dazzling 22%, its 1988 acquisition of Kraft already adding to the bottom line. Food processors increased revenues by 11%, while earnings grew an even faster 18%. Meanwhile, higher ticket prices paced airlines to a 36% gain, although that excludes Texas Air's \$109 million loss, which was reported too late to make the list. While American Telephone & Telegraph's restructuring helped profits climb 18%, it still trailed long-distance telephone competitors MCI Communications and United Telecommunications, whose profits leapt 142% and 138%, respectively.

HIGH-TECH LOWS. For some companies, however, falling profits were all too familiar. Military cutbacks and write-offs helped to slice earnings by 15% for companies in the aerospace industry, for example. McDonnell Douglas and Northrop both showed second-quarter losses after onetime write-offs. But in aerospace, quips Dean Witter Reynolds analyst William N. Deatherage, nonrecurring charges are rapidly becoming a recurring item. The same could be said for the wastrel savings and loan industry, which lost a total of \$119.2 million in the second quarter.

The high-tech industry was also a dis-

SECOND-QUARTER PROFITS

THE COMPANIES

GAINED THE MOST		WHO LOST THE MOST	
	Millions of dollars		Millions of dollars
AMERICAN AIRLINES	\$1,454	CONTROL DATA	\$497
AMERICAN AIRLINES	1,407	GOLDOME	225
AMERICAN AIRLINES	1,340	BEVERLY ENTERPRISES	98
AMERICAN AIRLINES	972	NATIONAL SEMICONDUCTOR	98
AMERICAN AIRLINES	745	VALLEY NATIONAL	83
AMERICAN AIRLINES	728	NORTHROP	78
AMERICAN AIRLINES	714	EMPIRE OF AMERICA	49
AMERICAN AIRLINES	699	MCDONNELL DOUGLAS	48
AMERICAN AIRLINES	497	INTERCO	41
AMERICAN AIRLINES	467	SEAMEN'S	39
AMERICAN AIRLINES	418	IMPERIAL CORP. OF AMERICA	36
AMERICAN AIRLINES	404	SPRAGUE TECHNOLOGIES	35
AMERICAN AIRLINES	401	COOPER COS.	31
AMERICAN AIRLINES	397	SUBARU OF AMERICA	27
AMERICAN AIRLINES	395	DATA GENERAL	23

DATA: STANDARD & POOR'S COMPUSTAT SERVICES INC



CORPORATE SCOREBOARD

appointment. Chipmakers tumbled 49%, led by National Semiconductor's \$98 million loss. And while IBM, Apple, and Compaq Computer continued to benefit from their dominance in the personal computer market, other hardware companies, such as Prime Computer and Zenith Electronics, lost money. Control Data, beset with huge restructuring costs, bled \$497 million to top the quarter's list of losers.

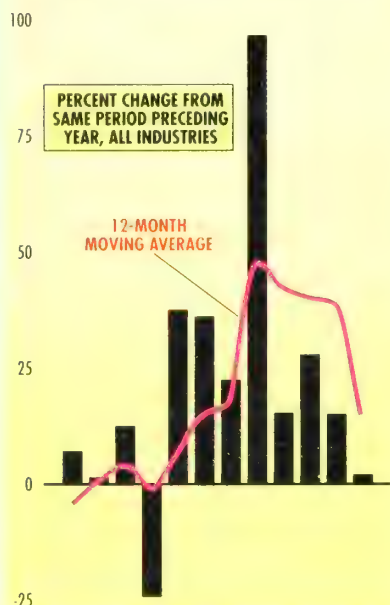
Despite a host of worrisome indicators, it could have been much worse. Interest rates appear to have peaked. And U.S. exporters weathered the strong dollar. Moreover, while heavy investment during the upturn has made companies more productive, they have been cautious in adding fresh capacity. There is no glut of new manufacturing or production space to plunder prices and profits.

Some wonder if the consensus is optimistic. "We may have had a few quizzes," warns John D. Connolly, Witter's chief investment strategist, "but the real test will come in the third and fourth quarters when demand ebbs and revenues drop." Connolly expects anemic profits from here on. In the third quarter, Corporate America has surprised most of the doubters so far.

By Christopher Tucher in New York

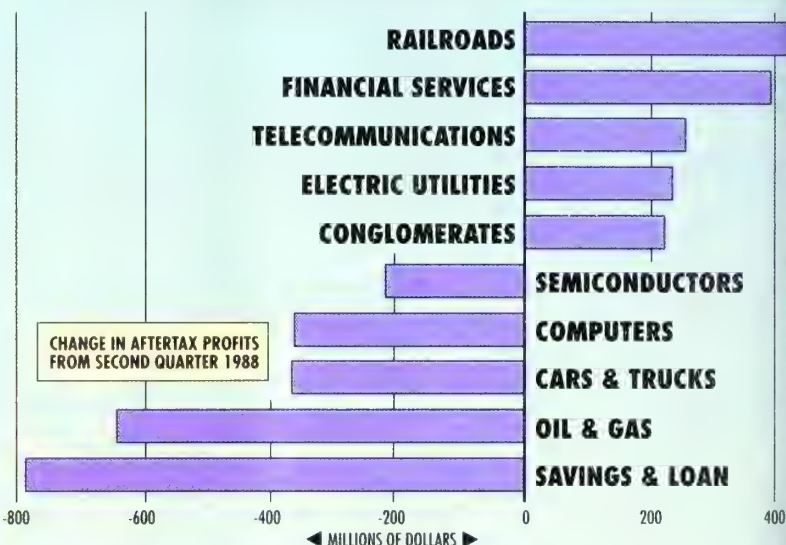
A SPOTLIGHT ON SECOND-QUARTER PROFITS

AFTERTAX PROFITS, QUARTER BY QUARTER



INDUSTRIES WITH THE BIGGEST DOLLAR CHANGE IN THE QUARTER

In 1989's second quarter, profits eked out a \$704 million gain. These industry groups had the biggest impact on overall results.

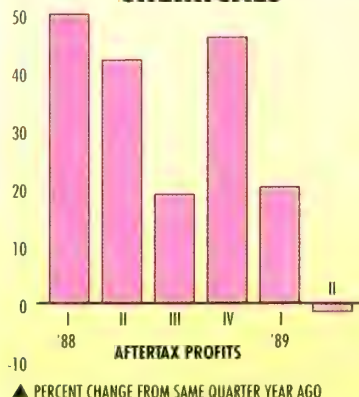


WHERE THE SLOWDOWN SHOWS UP CLEARLY

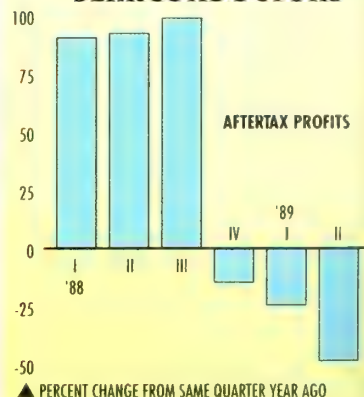
AUTOMOTIVE



CHEMICALS



SEMICONDUCTORS



DATA: STANDARD & POOR'S COMPUSTAT SERVICES INC.

CORPORATE SCOREBOARD

SECOND QUARTER 1989

SUMMARY

Includes all sales and other operating revenues. For banks, includes all operating revenues.
Net income before extraordinary items: Net income before extraordinary items, profits are net income after gains or losses.

Margins: Net income from continuing operations before extraordinary items as percent of sales.
Return on common equity: Ratio of net income available for common stockholders (most recent 12 months) to latest available common equity, which includes common stock, capital surplus, and retained earnings.

Price-earnings ratio: Based on July 21, 1989, common stock price and corporate earnings from continuing operations before extraordinary items for most recent 12-month period.
Earnings per share: For most recent 12-month period. Includes all common-stock equivalents.

PANY

SALES

PROFITS

MARGINS

RETURN ON
COMMON
EQUITY
12 MONTHS
ENDING
6-30

PRICE-
EARNINGS
RATIO
7-21

12
MONTHS'
EARNINGS
PER
SHARE

INDUSTRY COMPOSITE

797906.5 11 1570054.0 11 46263.5 2 94599.0 7 5.8 6.3 15.8 13 3.11

SPACE

INDUSTRY COMPOSITE	2ND QUARTER 1989 \$ MIL.	CHANGE FROM 1988 %	6 MONTHS 1989 \$ MIL.	CHANGE FROM 1988 %	2ND QUARTER 1989 \$ MIL.	CHANGE FROM 1988 %	6 MONTHS 1989 \$ MIL.	CHANGE FROM 1988 %	2ND QUARTER 1989 %	2ND QUARTER 1988 %	RETURN ON COMMON EQUITY 12 MONTHS ENDING 6-30	PRICE-EARNINGS RATIO 7-21	12 MONTHS' EARNINGS PER SHARE
INDUSTRY COMPOSITE	23129.4	6	43272.6	4	568.6	-15	1103.5	-13	2.5	3.1	11.9	13	3.71
Boeing	5072.0	7	9073.0	8	195.0	22	356.0	20	3.8	3.4	12.2	18	2.94
Boeing Corp. (1)	528.0	8	981.0	11	9.0	-55	17.0	-48	1.7	4.1	38.6	14	1.21
Boeing Dynamics	2529.7	7	4890.6	2	58.4	25	133.8	1	2.3	2.0	17.5	7	8.13
Boeing Int'l	204.0**	5	407.7	6	6.9	2	13.7	3	3.4	3.5	13.9	9	1.43
Boeing	2451.0	-3	4446.0	-10	77.0	-25	140.0	-33	3.1	4.0	14.6	8	6.08
Boeing Marietta	1433.4	-1	2749.8	0	86.9	7	146.1	10	6.1	5.6	25.6	7	6.29
Boeing Douglas	3476.0	-4	6813.0	-1	-48.0	NM	-58.0	NM	NM	2.0	5.3	16	4.47
Boeing Corp.	1397.1	4	2677.8	-1	-78.1	NM	-68.4	NM	NM	1.6	-12.5	NM	-2.68
Boeing Industries (5)	264.3	14	515.5	14	8.2	-4	17.3	7	3.1	3.7	8.5	16	1.94
Boeing Strand	394.3	12	771.4	10	37.9	NM	64.2	NM	9.6	NM	9.3	29	2.53
Boeing Industries	105.7	16	208.2	29	18.1	460	20.8	309	17.1	3.5	17.3	5	2.11
Boeing Technologies	5273.8**	19	9738.6	13	197.3	1	321.0	1	3.7	4.4	13.6	11	5.06

COMOTIVE

INDUSTRY COMPOSITE	71520.7	3	142176.5	7	3259.9	-12	6901.7	1	4.6	5.3	17.1	6	5.80
TRUCKS	62176.9	2	123847.9	7	2934.8	-11	6219.0	2	4.7	5.4	18.4	5	7.23
INDUSTRY COMPOSITE	62176.9	2	123847.9	7	2934.8	-11	6219.0	2	4.7	5.4	18.4	5	7.23
Boeing Signal	108.9	16	205.4	14	6.0	23	10.8	26	5.5	5.2	17.9	12	2.04
Boeing Motor	25889.7	4	51758.7	7	1407.1	-15	3044.1	-7	5.4	6.7	22.7	5	10.65
Boeing Motors	33597.9**	1	66909.5	6	1454.2	-3	3007.2	16	4.3	4.5	15.6	6	7.95
Boeing Trucks	518.8**	-9	1012.5	-4	-19.9	NM	-19.2	NM	NM	1.4	-1.3	NM	-0.23
Boeing International (2)	1085.0	3	2041.4	3	35.4	-49	72.8	-44	3.3	6.6	25.8	8	0.67
Boeing Truck (3)	126.3	32	235.8	29	4.5	4	8.5	6	3.5	4.5	13.2	7	1.80
Boeing	850.2**	13	1684.8	15	47.5	9	94.8	14	5.6	5.8	20.7	9	5.27

5 & EQUIPMENT

INDUSTRY COMPOSITE	6033.3	7	11922.1	9	253.4	8	484.6	18	4.2	4.2	5.4	33	0.81
INDUSTRY COMPOSITE	6033.3	7	11922.1	9	253.4	8	484.6	18	4.2	4.2	5.4	33	0.81
Boeing Industries	397.6	16	767.7	24	7.7	-44	10.1	NM	1.9	4.0	6.9	21	1.09
Boeing Engine	928.0	11	1847.3	13	23.9	NM	43.4	371	2.6	0.2	-6.4	NM	-3.53
Boeing	1318.1**	2	2621.4	4	42.9	0	81.8	5	3.3	3.3	17.0	10	4.09
Boeing	198.6**	7	393.6	8	12.5	12	24.0	13	6.3	6.0	27.9	10	1.75
Boeing (5)	100.0	1	197.6	7	4.5	-10	7.0	-21	4.5	5.1	14.9	11	1.66
Boeing-Picher Industries (1)	193.1	-4	385.3	2	13.0	15	40.6	87	6.7	5.6	NM	NM	-41.77
Boeing	969.4	10	1927.1	11	61.9	-3	125.2	1	6.4	7.2	19.8	10	6.19
Boeing (4)	380.5	15	725.5	14	13.5	-24	26.0	-14	3.6	5.4	9.4	16	1.09
Boeing-Mogul	294.8	-7	583.5	-5	20.3	47	25.0	10	6.9	4.4	18.0	13	1.82
Boeing & Sessions	92.3	-12	179.5	-9	3.4	-63	6.8	-49	3.7	8.9	25.7	7	1.67
Boeing Mfg. (9)	101.0	1	211.4	4	6.3	-10	12.6	4	6.2	7.0	14.9	11	1.68
Boeing-Manny, Moe & Jack (11)	178.3	21	346.4	20	7.6	43	17.7	29	4.3	3.6	14.1	21	0.72
Boeing (A. O.)	268.2	1	542.6	5	7.5	2	13.2	14	2.8	2.8	5.8	9	2.12
Boeing Motor Products	117.4	15	213.0	7	5.0	368	8.5	118	4.2	1.0	9.5	18	1.06
Boeing	496.0	11	980.2	13	23.3	-3	42.8	1	4.7	5.3	12.8	11	2.54

RUBBER

INDUSTRY COMPOSITE	3310.8	2	6406.6	4	71.7	-58	198.1	-32	2.2	5.2	14.6	13	3.84
INDUSTRY COMPOSITE	3310.8	2	6406.6	4	71.7	-58	198.1	-32	2.2	5.2	14.6	13	3.84
Boeing	128.6	5	243.0	7	18.4	9	33.9	9	14.3	13.8	44.6	15	4.95
Boeing	141.7	-1	284.8	1	11.1	52	17.3	41	7.9	5.1	11.5	15	2.78
Boeing Tire & Rubber	229.4	25	425.0	23	15.1	53	25.4	53	6.6	5.3	18.7	13	2.43
Boeing Tire & Rubber	2811.0	1	5453.9	2	27.1	-80	121.6	-47	1.0	4.8	12.0	13	4.20

1. Quarter ending May 31. (2) Second quarter ending Apr. 30. (3) Third quarter and most recent six months ending June 30. (4) Third quarter and most recent six months ending May quarter and most recent six months ending Apr. 30. (6) Fourth quarter and most recent six months ending June 30. (7) Fourth quarter and most recent six months ending May quarter and most recent six months ending Apr. 30. (9) First quarter and most recent six months ending June 30. (10) First quarter and most recent six months ending May quarter and most recent six months ending Apr. 30. *Sales include excise taxes. **Sales include other income. ***Sales include excise taxes and other income. †Revenues from subsidiaries not included in consolidated sales. Earnings per share are for latest 12 months, not necessarily for end of most recent fiscal year; they include all common stock but exclude extraordinary items. NA=not available. NM=not meaningful.

DATA: STANDARD & POOR'S COMPUSTAT SERVICES INC.

CORPORATE SCOREBOARD

COMPANY	SALES				PROFITS				MARGINS		RETURN ON COMMON EQUITY 12 MONTHS ENDING 6-30	PRICE-EARNINGS RATIO 7-21	MO. EARLY
	2ND QUARTER 1989 \$ MIL.	CHANGE FROM 1988 %	6 MONTHS 1989 \$ MIL.	CHANGE FROM 1988 %	2ND QUARTER 1989 \$ MIL.	CHANGE FROM 1988 %	6 MONTHS 1989 \$ MIL.	CHANGE FROM 1988 %	2ND QUARTER 1989 %	2ND QUARTER 1988 %			
3 BANKS													
INDUSTRY COMPOSITE	54626.9	26	106391.9	20	4047.4	5	8137.7	9	7.4	8.9	16.0	8	4.
(a) BANKS - EAST GROUP COMPOSITE	32097.4	30	62545.6	21	2068.1	-4	4181.6	0	6.4	8.7	16.6	7	5.
Bank of Boston	1787.1	44	3192.1	29	97.8	29	186.9	17	5.5	6.1	17.1	6	4
Bank of New England	942.7	25	1852.2	24	36.5	-47	78.8	-42	3.9	9.2	13.6	6	3
Bank of New York	1414.8	153	2724.6	145	114.3	130	215.4	107	8.1	8.9	12.3	9	5
Bankers Trust New York	1867.9	30	3562.1	29	174.6	0	338.9	13	9.3	12.1	19.9	6	8
Chase Manhattan	3426.5	20	6640.9	17	136.7	-39	268.6	-46	4.0	7.9	17.8	4	8
Chemical Banking	2130.5	15	4065.9	10	128.6	1	246.5	-3	6.0	6.9	21.2	3	11
Citicorp	8598.0	46	17414.0	17	395.0	10	924.0	29	4.6	6.1	20.8	6	5
CoreStates Financial	470.5	21	921.8	20	49.6	14	97.8	12	10.5	11.2	16.5	10	4
First Fidelity Bancorporation	750.8	10	1483.9	10	61.2	-13	123.0	-11	8.1	10.3	0.3	NM	-0
Fleet/Norstar Financial Group	892.2	21	1746.8	20	90.2	9	182.6	12	10.1	11.2	17.5	9	3
KeyCorp	410.6	23	800.9	23	33.4	28	64.4	22	8.1	7.8	14.1	9	3
Manufacturers Hanover	2179.0	-3	4210.0	0	106.0	-57	209.0	-42	4.9	11.1	19.4	4	11
Mellon Bank	395.0	3	775.0	2	59.0	111	112.0	111	14.9	7.3	-5.7	NM	-2
Midlantic	569.3	28	1102.6	28	61.6	15	121.1	15	10.8	12.1	17.4	7	6
MNC Financial	589.3	25	1132.4	23	50.5	17	98.0	35	8.6	9.1	16.9	8	6
Morgan (J. P.)	2778.4	42	5286.5	33	206.3	-10	385.9	-24	7.4	11.7	14.9	8	4
PNC Financial	1161.7	21	2292.0	21	125.5	10	249.1	10	10.8	11.8	16.7	9	5
Republic New York	652.5	30	1235.8	27	43.8	1	85.6	6	6.7	8.6	13.4	10	5
Shawmut National	770.4	1	1506.6	7	66.8	13	131.5	16	8.7	7.7	15.0	8	3
UJB Financial	310.1	24	599.5	22	30.8	8	62.7	9	9.9	11.4	14.9	8	2
(b) BANKS - MIDWEST GROUP COMPOSITE	6700.0	21	13066.8	18	668.6	15	1304.6	11	10.0	10.5	14.9	11	3.
Ameritrust	304.0	22	590.0	14	30.4	21	58.2	6	10.0	10.1	14.9	9	2
Banc One	791.4	19	1536.3	18	91.3	9	178.5	9	11.5	12.6	16.3	13	2
Boatmen's Bancshares	364.2	8	722.7	7	33.0	39	64.0	23	9.1	7.0	7.8	16	2
Comerica	314.4	26	615.7	23	30.3	9	57.7	5	9.6	11.1	17.7	8	6
Continental Bank	285.6	11	578.1	9	64.1	6	139.7	9	22.4	23.3	27.3	5	5
First Bank System	643.9	11	1263.0	10	53.0	45	103.3	45	8.2	6.3	-31.1	NM	-4
First Chicago	1393.7	22	2705.1	16	134.4	9	259.1	-2	9.6	10.8	23.2	6	7
Manufacturers National	285.2	30	553.2	27	26.8	14	51.7	13	9.4	10.8	17.2	8	6
Michigan National	352.5	41	693.2	42	23.0	-4	38.1	-16	6.5	9.7	14.6	9	5
National City	639.8	21	1251.1	19	65.8	22	128.2	19	10.3	10.2	18.7	9	4
Northern Trust	312.3	36	598.5	29	28.9	31	54.3	30	9.3	9.6	26.6	8	7
Norwest	720.2	21	1394.8	18	58.8	15	115.8	14	8.2	8.6	18.7	9	4
Society	292.6	24	565.0	22	28.7	16	56.1	17	9.8	10.4	15.7	8	4
(c) BANKS - SOUTH & SOUTHEAST GROUP COMPOSITE	6285.5	22	12194.1	20	596.4	14	1166.7	13	9.5	10.2	15.8	10	3.
Barnett Banks	773.4	24	1494.2	21	64.3	14	126.7	14	8.3	9.0	15.3	9	3
Citizens & Southern	617.2	21	1191.3	18	58.6	17	116.3	18	9.5	9.8	17.0	10	3
Crestar Financial	296.4	15	577.4	13	25.4	17	49.8	14	8.6	8.4	14.5	10	3
First Union	819.2	16	1607.0	15	73.7	-3	145.9	-5	9.0	10.7	14.7	10	2
First Wachovia	615.6	28	1190.3	25	67.9	14	135.2	14	11.0	12.3	16.3	10	4
NCNB	891.7	33	1706.0	25	91.5	54	167.3	29	10.3	8.8	13.8	16	3
Signet Banking	332.7	9	651.1	8	31.3	-17	62.8	-3	9.4	12.3	21.4	7	5
Southeast Banking	447.3	32	852.4	28	32.3	8	65.4	23	7.2	8.8	12.4	9	2
Sovran Financial	664.2	23	1289.4	21	65.5	13	127.4	13	9.9	10.8	17.3	9	4
SunTrust Banks	827.8	19	1634.9	19	85.9	12	169.9	12	10.4	10.9	16.9	10	2
(d) BANKS - WEST & SOUTHWEST GROUP COMPOSITE	9544.1	20	18586.4	19	714.3	23	1484.8	43	7.5	7.3	14.5	9	4.
BankAmerica	2894.0	20	5631.0	19	304.0	88	579.0	114	10.5	6.7	15.0	7	3
First City Bancorp. of Texas	364.9	27	713.1	29	28.1	296	54.3	NM	7.7	2.5	11.2	8	4
First Interstate Bancorp	1646.7	13	3208.3	13	95.0	7	189.3	7	5.8	6.1	4.6	30	2
Security Pacific	2496.3	24	4846.8	22	184.5	20	363.8	21	7.4	7.7	17.9	8	6
U. S. Bancorp	418.5	25	797.5	21	38.4	32	73.6	27	9.2	8.7	14.0	10	3
Valley National	299.9	8	609.1	9	-83.2	NM	-64.2	NM	NM	5.7	-4.9	NM	-1
Wells Fargo	1423.7	21	2780.6	19	147.4	18	288.9	18	10.4	10.6	22.7	8	10
4 CHEMICALS													
INDUSTRY COMPOSITE	32900.5	8	65085.1	10	2949.4	-1	6019.2	7	9.0	9.8	22.5	9	6.
Arco Chemical	726.0	7	1425.0	13	120.0	-5	236.0	1	16.5	18.6	35.7	7	5
Air Products & Chemicals (3)	663.7	10	1332.7	9	53.4	2	110.0	2	8.0	8.6	16.3	11	4
American Cyanamid	1299.3	4	2530.9	6	110.4	11	199.4	12	8.5	8.0	15.5	15	3
Aristech Chemical	268.2	0	543.4	3	18.6	-47	45.1	-49	6.9	13.2	37.4	6	3
Betz Laboratories	130.4	17	254.8	17	14.1	17	27.2	17	10.8	10.8	21.5	17	3
Cabot (3)	470.5	11	1491.5	17	9.6	-42	61.4	20	2.0	3.9	14.2	16	2
Crompton & Knowles	95.0	39	182.8	47	7.3	47	12.7	45	7.7	7.3	24.7	14	12
Dexter	224.7**	4	442.4	4	12.6	-5	24.0	-5	5.6	6.2	12.3	16	1

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Rock Solid. Market Wise.

Armed with the resources to help you,
no matter what the investment climate.

Prudential-Bache
Securities®

CORPORATE SCOREBOARD

COMPANY	SALES				PROFITS				MARGINS		RETURN ON COMMON EQUITY 12 MONTHS ENDING 6-30	PRICE- EARNINGS RATIO 7-21
	2ND QUARTER 1989 \$ MIL.	CHANGE FROM 1988 %	6 MONTHS 1989 \$ MIL.	CHANGE FROM 1988 %	2ND QUARTER 1989 \$ MIL.	CHANGE FROM 1988 %	6 MONTHS 1989 \$ MIL.	CHANGE FROM 1988 %	2ND QUARTER 1989 %	2ND QUARTER 1988 %		
Dow Chemical	4601.0	8	9086.0	10	728.0	14	1471.0	29	15.8	15.0	36.2	6
Du Pont	9278.0	11	17952.0	11	714.0	12	1450.0	18	7.7	7.7	15.5	11
Engelhard	603.1	14	1190.3	14	15.1	7	29.5	7	2.5	2.7	8.7	15
Ethyl	602.6	22	1173.0	18	51.0	7	102.1	9	8.5	9.7	NA	12
Ferro	275.4	6	546.9	9	13.2	11	25.5	11	4.8	4.6	16.3	14
Freeport-McMoRan	519.5	6	990.3	7	30.8	-68	100.7	-32	5.9	19.4	30.3	10
Fuller (H. B.) (1)	196.3	14	373.9	14	4.9	-14	6.8	-35	2.5	3.3	9.7	18
Georgia Gulf	292.3	6	610.0	22	49.3	4	104.7	22	16.9	17.2	74.9	5
Goodrich (B. F.)	628.8	8	1244.7	12	53.0	-7	104.0	8	8.4	9.7	19.0	7
Grace (W. R.)	1510.7	4	2907.9	6	44.6	-24	74.9	-13	3.0	4.0	11.9	15
Great American Management (5)	440.7**	24	779.3	37	-11.9	NM	-20.2	NM	NM	3.4	-2.2	NM
Great Lakes Chemical†	207.3**	39	365.4	21	31.2	25	59.8	22	15.1	16.7	22.6	13
Hanna (M. A.)†	291.5	11	547.9	9	35.9	12	49.7	10	12.3	12.3	21.4	7
Hercules	791.5	12	1530.9	12	41.6	-12	86.4	-1	5.3	6.7	5.8	19
Himont	423.5	-7	866.9	0	60.1	-38	139.4	-20	14.2	21.2	24.2	NA
Loctite (6)	120.9	9	237.3	8	16.1	25	30.2	29	13.3	11.7	24.1	15
Lubrizol	327.5	14	672.6	15	26.0	17	56.7	23	7.9	7.8	21.7	12
Monsanto	2348.0	4	4613.0	5	241.0	10	463.0	8	10.3	9.7	16.4	12
Nalco Chemical	268.1	8	517.6	7	29.7	14	54.8	7	11.1	10.5	22.8	13
Olin	658.0	14	1329.0	16	35.0	22	69.0	19	5.3	5.0	15.4	12
Pennwalt	279.9	11	559.8	8	20.7	103	49.1	80	7.4	4.0	30.0	15
Quantum Chemical	672.5	4	1486.6	7	46.0	-42	117.4	-33	6.8	12.2	NM	3
Rexene	158.3	-14	332.0	-5	12.1	-54	37.2	-33	7.6	14.3	42.9	4
Rohm & Haas	735.2	5	1414.7	7	69.3	-9	122.4	-11	9.4	10.8	17.3	10
Schulman (A.) (4)	162.8**	0	322.6	4	8.2	10	15.4	13	5.0	4.6	19.1	13
Sterling Chemicals (3)	150.2	-27	312.1	-20	17.6	-74	49.3	-62	11.7	32.8	90.8	4
Union Carbide	2277.0	7	4518.0	11	186.0	-1	387.0	34	8.2	8.8	37.9	5
Vista Chemical (3)	202.3	7	400.8	-1	35.1	26	67.6	19	17.3	14.7	91.4	5
5 CONGLOMERATES												
INDUSTRY COMPOSITE	39148.1	10	75063.9	9	2317.7	17	4519.3	15	5.5	5.4	15.8	13
Alco Standard (3)	1030.7**	8	2074.4	9	31.2	7	60.2	20	3.0	3.1	20.2	12
Allied-Signal	3115.0	1	6057.0	0	166.0	30	292.0	22	5.3	4.1	15.4	10
Dart Group (11)	208.3	116	437.8	100	2.8	-65	8.2	-15	1.3	8.3	8.2	8
Figgie International	336.9	14	660.9	16	13.7	1	28.4	6	4.1	4.6	16.9	9
Fuqua Industries	231.8	-15	478.5	3	3.0	-64	8.1	-90	1.3	3.1	-1.3	NM
General Electric	13431.0	15	25106.0	14	972.0	16	1821.0	17	7.2	7.1	19.2	14
General Host (11)	158.6	1	283.3	7	1.5	-66	1.1	-77	1.0	2.8	-4.4	NM
Greyhound	925.5	8	1767.2	10	35.6	15	50.5	15	3.9	3.6	9.8	13
National Intergroup (9)	853.5	20	1715.6	21	8.5	83	12.4	NM	1.0	0.7	-1.5	NM
Pall (5)	134.2	15	252.6	14	13.8	-27	25.6	-15	10.3	16.3	14.8	24
Penn Central	444.2	17	787.3	10	26.9	23	119.6	182	6.1	5.8	9.1	11
Premark International	657.9	11	1278.6	8	23.7	-23	46.1	-34	3.6	5.2	12.8	13
Rockwell International (3)	3212.0	5	6373.7	4	178.1	-17	448.8	4	5.5	7.0	20.3	7
Teledyne	1159.3	4	2275.6	3	46.8	-31	117.3	-46	4.0	6.1	13.5	14
Tenneco	3665.0	11	6984.0	6	180.0	128	289.0	33	4.9	3.5	4.5	48
Textron	1847.3	4	3672.2	3	68.8	0	132.1	-4	3.7	3.9	11.1	9
TRW	1844.0	1	3629.0	0	70.0	-1	139.0	1	3.8	3.9	16.7	11
USX	4957.0*	16	9415.0	13	250.0	17	546.0	48	5.0	5.0	16.7	11
Whitman	935.8	13	1815.2	16	45.3	30	84.9	40	4.8	4.2	21.8	20
6 CONSUMER PRODUCTS												
INDUSTRY COMPOSITE	38164.3	20	73933.8	19	2414.5	12	4419.9	13	6.3	6.7	23.9	16
(a) APPAREL												
GROUP COMPOSITE	4463.9	11	8931.3	12	176.3	-15	347.6	-16	3.9	5.2	20.5	14
Angelica (11)	90.4	11	171.1	8	4.8	8	8.4	7	5.3	5.5	11.1	14
Brown Group (11)	436.6	10	899.2	6	7.3	-15	8.4	-65	1.7	2.2	8.6	20
Crystal Brands	166.0	92	398.9	130	-2.4	NM	3.7	787	NM	NM	7.9	18
Farah (2)	87.7	-4	152.4	-2	1.6	44	0.2	-64	1.8	1.2	-5.9	NM
Fruit of the Loom	379.6	29	661.6	31	25.8	43	33.5	60	6.8	6.1	32.5	9
Hartmarx (1)	304.5	12	631.8	10	3.1	-62	12.9	-25	1.0	3.0	9.2	14
Interco (10)	468.7	-4	951.8	-4	-41.5	NM	-83.6	NM	NM	4.8	NM	NM
Kellwood (8)	199.2	17	389.8	14	9.7	18	16.0	16	4.9	4.9	17.5	11
L. A. Gear (1)	169.6	207	235.7	182	16.1	200	21.4	203	9.5	9.7	77.9	15
Leslie Fay	155.0	21	358.3	21	0.3	NM	9.9	124	0.2	NM	19.4	10
Nike (7)	413.4	17	878.1	28	36.5	20	85.3	47	8.8	8.6	31.6	10
Oxford Industries (7)	131.6	-12	264.5	-8	2.5	NM	3.6	NM	1.9	NM	9.2	13
Phillips-Van Heusen (11)	148.1	20	312.2	12	3.0	61	6.3	142	2.0	1.5	42.7	14
Reebok International	431.5	-7	920.0	0	40.8	-10	90.2	-3	9.4	9.8	18.3	11
Russell	149.5	34	296.4	29	10.0	18	23.0	16	6.7	7.6	15.9	15
Stride Rite (1)	121.6	25	235.7	28	13.1	33	24.7	49	10.8	10.2	31.0	15
VF	611.1	-5	1173.9	-5	45.5	1	83.8	2	7.4	7.0	15.8	14

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CORPORATE SCOREBOARD

COMPANY	SALES				PROFITS				MARGINS		RETURN ON COMMON EQUITY 12 MONTHS ENDING 6/30	PRICE- EARNINGS RATIO 7/21	12 MONTHS' EARNINGS PER SHARE
	2ND QUARTER 1989 \$ MIL	CHANGE FROM 1988 %	6 MONTHS 1989 \$ MIL	CHANGE FROM 1988 %	2ND QUARTER 1989 \$ MIL	CHANGE FROM 1988 %	6 MONTHS 1989 \$ MIL	CHANGE FROM 1988 %	2ND QUARTER 1989 %	2ND QUARTER 1988 %			
LIQUOR & HOME FURNISHINGS													
GROUP COMPOSITE	3368.1	24	6683.7	23	81.1	-5	184.5	-4	2.4	3.1	13.2	17	1.00
Heinen International (3)	234.9	0	503.2	3	-15.3	NM	-19.9	NM	NM	NM	NM	NM	-5.60
Metz Furniture Industries (1)	119.1	6	227.8	0	5.1	15	8.2	14	4.3	4.0	7.2	17	2.32
Buy (9)	107.2	-4	212.9	-2	-1.2	NM	-3.6	NM	NM	NM	1.7	54	0.13
City Stores (10)	408.0	25	971.5	23	10.7	20	41.0	25	2.6	2.7	26.0	16	1.56
Person Radio (9)	221.2	35	392.3	33	3.5	215	5.6	NM	1.6	0.7	13.4	15	0.34
ders	125.7	100	232.7	94	7.9	76	14.7	74	6.3	7.1	23.9	11	1.21
lig-Meyers (10)	99.1**	8	188.0	9	6.0	1	8.5	5	6.0	6.4	11.0	12	1.63
land Superstores (11)	196.5	8	512.4	14	-8.5	NM	-4.1	NM	NM	0.2	-1.2	NM	-0.09
mark (9)	208.7**	7	383.4	5	0.3	-66	-6.9	NM	0.1	0.4	-0.6	NM	-0.04
Z-Boy Chair (8)	159.2	2	294.0	8	10.5	25	15.9	1	6.6	5.4	14.1	13	1.54
d Furniture	96.7	-2	190.2	-1	6.9	0	12.7	-6	7.2	7.0	19.2	11	1.28
gett & Platt	259.6	32	496.8	30	12.1	19	23.5	16	4.6	5.1	16.3	13	2.38
yttag	813.5	69	1492.1	63	28.2	-20	62.3	-6	3.5	7.3	13.1	14	1.51
Imports (10)	113.9	17	225.6	24	6.7	25	11.6	39	5.9	5.5	20.1	15	0.72
(5)	204.7	-2	360.9	0	8.2	5	15.1	9	4.0	3.7	22.1	10	2.06
BEVERAGES													
GROUP COMPOSITE	10854.0	11	19983.6	10	957.5	15	1651.0	20	8.8	8.5	23.6	18	2.64
Heuser-Busch	2479.8	7	4684.9	7	233.7	10	400.8	10	9.4	9.1	23.7	16	2.62
wn-Forman (8)	196.3	-18	469.3	-8	21.3	12	79.2	67	10.8	7.9	26.5	14	5.15
a-Cola	2429.1	5	4414.3	6	345.5	14	605.3	18	14.2	13.1	38.1	20	3.16
a-Cola Bottling	105.2	14	190.0	17	1.6	-50	-1.0	NM	1.5	3.4	-1.8	NM	-0.41
a-Cola Enterprises	1088.5	-1	1948.1	0	38.8	-5	52.3	-3	3.6	3.7	8.7	17	0.99
rs (Adolph)	425.5	11	749.6	12	16.9	-13	12.1	-48	4.0	5.0	3.4	19	0.98
eral Cinema (2)	536.9	17	976.6	14	34.9	116	72.4	102	6.5	3.5	15.7	21	1.31
siCo	3592.7	24	6551.0	22	264.9	21	430.0	29	7.4	7.6	26.4	18	3.25
PERSONAL CARE													
GROUP COMPOSITE	4606.8	10	8938.9	9	276.2	9	501.3	9	6.0	6.1	26.1	18	2.23
erto-Culver (3)	182.2	18	362.8	19	8.3	18	14.6	22	4.5	4.5	19.5	21	2.15
on Products	777.7	10	1482.6	12	39.5	10	45.7	9	5.1	5.1	46.4	22	1.54
ck Drug (9)	105.2	4	213.4	10	11.3	5	22.3	8	10.7	10.7	14.7	14	2.58
med	151.1	40	293.0	41	7.2	19	12.6	18	4.8	5.6	17.9	15	2.34
rch & Dwight	95.7	13	186.7	12	2.1	-46	4.1	-53	2.2	4.7	10.7	23	0.55
gate-Palmolive	1289.7	9	2493.4	7	73.6	41	140.8	36	5.7	4.4	16.7	20	2.75
lab	359.8	7	595.2	6	11.9	-27	4.1	-63	3.3	4.8	8.9	21	1.37
ette	903.9	5	1844.9	4	62.5	-8	140.1	-2	6.9	7.8	NM	16	2.65
ene Curtis Industries (10)	160.2	16	330.8	20	2.2	36	6.4	52	1.4	1.2	11.4	16	3.47
(8)	150.8	16	300.4	14	9.2	18	18.6	19	6.1	6.0	17.9	11	4.06
cell	127.4**	4	283.8	6	11.8	4	28.9	7	9.3	9.3	20.4	16	1.30
rhome	137.0	17	256.0	10	10.4	12	18.8	11	7.6	7.9	30.1	13	2.08
brands	166.1	11	296.0	5	26.2	7	44.2	-3	15.8	16.3	23.5	16	3.77
ACCOR													
GROUP COMPOSITE	14871.6	33	29396.7	32	923.4	20	1735.6	19	6.2	6.9	27.2	14	6.66
merican Brands	2722.6*	0	5968.5	2	120.2	11	292.4	11	4.4	4.0	21.5	12	5.93
oro	249.8***	-2	480.0	1	2.9	-12	4.1	-6	1.2	1.3	0.1	NM	0.03
gett Group (9)	131.0*	7	252.5	8	5.3	0	10.2	-5	4.1	4.4	36.5	8	1.26
ip Morris	11595.0*	46	22365.0	46	745.0	22	1335.0	21	6.4	7.7	28.8	15	10.21
	173.1*	9	330.7	9	50.0	20	94.0	19	28.9	26.2	38.7	18	1.53
CONTAINERS & PACKAGING													
INDUSTRY COMPOSITE	5312.3	16	10111.6	15	341.8	-5	692.1	6	6.4	7.8	21.3	9	3.73
GLASS, METAL & PLASTIC													
GROUP COMPOSITE	1347.4	4	2503.6	4	36.4	-30	64.5	-29	2.7	4.0	9.0	22	1.46
hor Glass Container	267.2	1	516.5	4	-10.3	NM	-14.4	NM	NM	0.7	-35.7	NM	-1.87
	337.2	10	594.5	9	15.0	-12	22.7	-22	4.4	5.6	6.2	27	1.12
star International	141.5	4	277.2	5	3.9	37	7.5	23	2.8	2.1	15.5	13	2.15
wn Cork & Seal	514.7	-1	946.5	1	27.2	-3	46.4	0	5.3	5.4	15.5	14	3.47
d Dorn	86.9	15	168.8	2	0.6	-75	2.4	-61	0.7	3.1	8.5	18	0.96
PAPER													
GROUP COMPOSITE	3964.9	20	7608.0	19	305.4	-1	627.5	12	7.7	9.4	24.2	8	4.32
his	280.4	2	545.5	5	12.5	27	20.3	22	4.5	3.6	17.8	20	1.64
eral Paper Board	308.8	24	593.5	20	51.4	78	98.5	94	16.6	11.6	28.7	5	4.69
ylord Container (3)	193.5	3	371.5	9	10.9	-12	16.9	-25	5.6	6.6	26.4	5	2.68
if Bros. (2)	110.8	7	215.9	10	7.4	-17	12.6	-14	6.6	8.5	11.9	19	2.30
erson Smurfit	334.7	4	654.5	3	36.9	1	71.8	4	11.0	11.4	43.3	8	3.80
gview Fibre (2)	168.6	-1	338.5	10	15.5	-47	34.8	-24	9.2	17.3	22.7	9	7.72
atch	296.1	11	593.5	13	25.7	5	61.6	21	8.7	9.2	18.0	8	4.40
oco Products	415.4	1	848.6	8	28.6	9	53.1	10	6.9	6.4	21.5	15	2.30
ne Container	1379.9	61	2507.3	44	63.6	-19	150.4	5	4.6	9.1	30.9	5	5.80
ple-Inland	476.6**	6	939.2	7	52.9	0	107.4	9	11.1	11.8	18.3	8	7.49

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CORPORATE SCOREBOARD

COMPANY	SALES				PROFITS				MARGINS			RETURN ON COMMON EQUITY 12 MONTHS ENDING 6-30	PRICE- EARNINGS RATIO 7-21
	2ND QUARTER 1989 \$ MIL	CHANGE FROM 1988 %	6 MONTHS 1989 \$ MIL	CHANGE FROM 1988 %	2ND QUARTER 1989 \$ MIL	CHANGE FROM 1988 %	6 MONTHS 1989 \$ MIL	CHANGE FROM 1988 %	2ND QUARTER 1989 %	2ND QUARTER 1988 %			
8 DISCOUNT & FASHION RETAILING													
INDUSTRY COMPOSITE	53182.3	13	118677.2	15	1240.6	4	4236.1	22	2.3	2.5	15.2	16	
Alexander's (5)	91.7**	-13	264.2	-12	-2.6	NM	14.6	NM	NM	NM	18.7	14	
Ames Department Stores (11)	1112.0**	125	2883.0	150	-12.3	NM	10.5	-54	NM	1.2	5.0	28	
Blair	114.5	7	216.9	6	7.9	-6	14.2	-12	6.9	7.9	31.2	9	
Burlington Coat Factory (2)	135.3	21	416.9	23	2.4	0	24.0	16	1.8	2.2	12.7	11	
Carson Pirie Scott (11)	209.1**	5	554.2	10	-18.4	NM	-9.1	NM	NM	NM	-12.4	NA	
Carter Hawley Hale Stores (5)	595.4**	9	1526.1	8	-3.2	NM	18.7	17	NM	NM	NM	41	
Charming Shoppes (11)	172.3	15	393.8	18	6.9	101	23.9	118	4.0	2.3	17.7	20	
Child World (11)	131.7	10	540.0	6	-5.1	NM	17.8	28	NM	NM	5.8	19	
CML Group (5)	89.4	10	210.2	12	2.3	2	9.5	10	2.6	2.8	15.7	12	
Consolidated Stores (11)	131.6	3	347.4	9	-1.1	NM	13.1	27	NM	0.9	13.6	15	
Costco Wholesale (4)	658.1	46	1354.9	46	4.6	NM	13.7	105	0.7	0.0	17.9	29	
CVN (4)	162.8	25	355.1	20	6.5	246	13.2	59	4.0	1.4	10.4	26	
Dayton Hudson (11)	2826.0**	11	6925.8	11	40.0	30	222.1	35	1.4	1.2	15.8	15	
Dillard Department Stores (11)	598.1**	16	1480.1	14	19.6	22	85.3	30	3.3	3.1	15.2	18	
Dollar General (11)	129.9	5	319.9	2	-0.4	NM	5.5	22	NM	NM	9.3	21	
Family Dollar Stores (4)	187.6	8	383.1	9	4.7	-42	12.5	-28	2.5	4.7	13.1	13	
Gap (11)	309.9	28	733.6	22	15.1	241	47.2	81	4.9	1.8	30.5	18	
Genesco (11)	105.0	3	233.8	9	-0.2	NM	9.3	81	NM	NM	15.9	8	
Grossman's	343.9	4	563.4	6	10.7	-9	3.2	24	3.1	3.6	14.7	15	
Hechinger (11)	274.9	15	520.8	27	7.3	-17	20.2	3	2.7	3.7	12.6	14	
Hills Department Stores (11)	397.9	25	971.3	18	-15.7	NM	6.0	-63	NM	NM	NM	NM	
Home Depot (11)	641.5	44	1166.3	42	25.9	35	44.8	27	4.0	4.3	20.3	27	
Home Shopping Network (4)	178.7	-2	386.3	3	-7.7	NM	-2.5	NM	NM	3.5	4.2	53	
Jacobson Stores (11)	86.4**	11	207.0	12	2.1	14	9.7	28	2.4	2.3	14.5	14	
Jamesway (11)	161.9	10	425.4	13	-1.1	NM	2.6	-38	NM	0.2	6.5	15	
K mart (11)	6068.2**	4	14485.5	7	94.0	-22	487.0	10	1.5	2.1	15.5	10	
Kay Jewelers	91.2	8	170.6	9	-1.0	NM	-4.8	NM	NM	0.2	18.4	13	
Lands' End (11)	108.1	32	297.1	39	4.7	-20	20.8	23	4.4	7.2	32.2	19	
Limited (11)	964.6	19	2320.6	27	45.2	89	165.3	90	4.7	2.9	27.2	23	
Lowe's (11)	602.1	2	1171.7	7	14.6	-3	26.4	68	2.4	2.6	11.5	14	
May Department Stores (11)	2632.0**	20	6683.0	22	63.0	5	339.0	17	2.4	2.7	19.4	13	
Melville	1675.3	14	3204.4	12	61.6	2	85.9	4	3.7	4.1	21.0	14	
Mercantile Stores (11)	478.6**	3	1244.8	6	27.0	-3	84.4	14	5.6	6.0	14.4	12	
Meyer (Fred) (11)	620.1	10	1188.5	13	5.7	1	21.0	8	0.9	1.0	13.9	14	
Neiman-Marcus Group (5)	342.6	24	791.9	22	4.7	37	18.5	-2	1.4	1.2	NM	NM	
Nordstrom (11)	512.2	19	1277.3	24	23.0	20	70.5	34	4.5	4.4	19.3	23	
Pace Membership Warehouse (11)	318.6**	36	808.1	33	1.0	182	6.7	70	0.3	0.2	8.3	23	
Penney (J. C.) (11)	3408.0	4	8358.0	2	128.0	-2	563.0	37	3.8	4.0	23.8	10	
Petrie Stores (11)	279.1	7	664.8	8	7.0	8	25.9	-15	2.5	2.5	5.7	27	
Price (4)	1086.0**	15	2121.2	19	21.0	13	46.6	17	1.9	2.0	20.0	19	
Rose's Stores (11)	327.5	6	773.1	10	4.6	-28	11.1	44	1.4	2.1	7.1	10	
Ross Stores (11)	153.9	18	355.2	16	3.4	NM	19.7	87	2.2	0.2	32.1	16	
Sears, Roebuck	13281.3**	9	25441.8	10	334.9	-1	591.2	12	2.5	2.8	8.0	15	
Service Merchandise	716.9	7	1282.3	7	13.9	72	9.4	NM	1.9	1.2	24.2	12	
Spiegel	316.7	21	632.1	28	6.7	138	13.0	35	2.1	1.1	17.2	14	
Strawbridge & Clothier (11)	190.5**	4	513.2	9	1.6	-26	22.5	8	0.8	1.1	12.7	12	
TJX (11)	466.4	18	1033.6	20	19.2	53	29.5	19	4.1	3.2	10.9	17	
Toys 'R' Us (11)	767.7	19	2657.1	21	27.1	21	223.7	27	3.5	3.5	19.4	22	
U. S. Shoe (11)	571.8	8	1255.7	10	7.7	149	25.7	91	1.3	0.6	3.4	53	
Wal-Mart Stores (11)	537.7	25	11904.0	28	198.3	29	521.5	30	3.7	3.6	27.8	27	
Wholesale Club (11)	107.4**	39	239.7	42	-0.2	NM	2.7	23	NM	0.4	7.6	26	
Woolworth (F. W.) (11)	1877.0**	9	4423.0	12	36.0	3	180.0	8	1.9	2.0	15.9	12	
9 ELECTRICAL & ELECTRONICS													
INDUSTRY COMPOSITE	25642.4	7	49662.2	8	1440.0	-2	2792.5	0	5.6	6.2	12.2	16	
(a) ELECTRICAL PRODUCTS													
GROUP COMPOSITE	6222.9	10	11750.0	8	409.0	-2	726.2	-2	6.6	7.4	17.7	13	
Ametek	145.2	9	289.2	10	10.9	9	22.2	6	7.5	7.5	19.5	17	
Cooper Industries	1349.9**	29	2389.1	21	71.8	19	109.8	19	5.3	5.8	13.6	14	
Genlyte Group	128.5	3	257.8	3	3.4	14	6.3	1	2.6	2.4	30.4	14	
Hubbell	168.3	7	330.1	7	20.9	11	40.1	12	12.4	12.0	18.9	14	
National Service Industries (4)	385.5	8	762.4	9	24.2	10	45.8	10	6.3	6.1	15.8	14	
Raychem (6)	300.8	-4	570.9	-3	13.0	-75	15.3	81	4.3	16.8	5.0	34	
Square D	454.4	11	885.7	11	32.2	4	59.8	2	7.1	7.6	19.5	12	
Thomas Industries	112.5	24	200.0	16	4.3	-6	9.7	0	3.9	5.1	13.8	12	
Westinghouse Electric	3177.7	4	6064.9	5	228.3	6	417.3	5	7.2	7.1	21.7	12	
(b) ELECTRONICS													
GROUP COMPOSITE	10101.0	8	19937.5	9	639.9	16	1205.8	9	6.3	5.9	13.6	13	
E-Systems	395.9	9	790.9	18	19.4	1	38.5	11	4.9	5.3	15.5	13	
General Instrument (10)	345.6	10	674.4	11	22.2	4	42.8	5	6.4	6.8	13.7	14	
Hughes Electronics	2851.0	1	5825.8	8	240.3	19	450.4	4	8.4	7.1	10.5	15	
Litton Industries (5)	1267.3	6	2472.0	5	44.7	6	88.1	7	3.5	3.5	14.5	13	

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CORPORATE SCOREBOARD

COMPANY	SALES				PROFITS				MARGINS		RETURN ON EQUITY 12 MONTHS ENDING 6/30/89	PRICE- EARNINGS RATIO 7/1	12 MONTHS' EARNINGS PER SHARE
	2ND QUARTER 1989 \$ MIL.	CHANGE FROM 1988 %	6 MONTHS 1989 \$ MIL.	CHANGE FROM 1988 %	2ND QUARTER 1989 \$ MIL.	CHANGE FROM 1988 %	6 MONTHS 1989 \$ MIL.	CHANGE FROM 1988 %	2ND QUARTER 1989 %	2ND QUARTER 1988 %			
ALCOA	232.7	-9	559.6	-2	16.6	36	33.3	21	7.1	4.8	12.5	15	2.29
Alcoa	2385.0	14	4560.0	13	154.0	28	277.0	18	6.5	5.7	14.0	15	3.75
Alcoa	2290.0	12	4362.8	9	133.7	9	254.5	8	5.8	6.0	23.5	10	7.69
Alcoa Associates (3)	333.5	12	692.1	16	9.1	-23	21.1	0	2.7	4.0	12.4	10	2.56
ALCOA GROUP	4693.1	7	9335.6	6	171.5	129	338.1	66	3.7	1.7	0.0	NM	0.01
Alcoa Group	94.0	6	182.9	12	3.2	25	5.6	NM	3.4	2.9	5.6	13	0.89
Alcoa Instruments	200.5	3	399.5	5	11.4	-6	22.1	0	5.7	6.2	18.1	12	1.50
Alcoa	158.9	17	296.8	10	4.1	82	7.1	119	2.6	1.7	7.1	30	1.11
Alcoa Signal	488.5	12	966.9	13	18.7	NM	38.5	330	3.8	NM	11.7	21	2.64
Alcoa	1784.0	2	3447.5	-1	74.8	137	137.7	54	4.2	1.8	-21.9	NM	-9.14
Alcoa Industries	200.9	19	379.2	17	9.1	47	17.0	51	4.5	3.7	11.4	10	1.92
Alcoa Controls (3)	910.6	15	1774.3	15	23.5	-3	42.9	-1	2.6	3.1	11.7	13	2.81
Alcoa	167.0	8	327.8	9	13.5	3	25.9	4	8.1	8.5	14.9	17	1.99
Alcoa-Elmer (5)	198.7	12	515.4	8	10.4	7	27.6	15	5.2	5.5	8.4	23	1.18
Alcoa (7)	361.6	0	795.8	0	-2.1	NM	4.3	NM	NM	NM	3.7	35	0.66
Alcoa	128.3	18	249.5	15	5.1	381	9.4	328	3.9	1.0	1.4	91	0.13
ALCOA CONDUCTORS	4625.4	3	8639.2	6	219.5	-49	522.4	-30	4.7	9.6	12.3	16	1.52
Alcoa Micro Devices	274.9	-11	544.5	-8	12.1	-54	22.1	-52	4.4	8.5	-2.3	NM	-0.19
Alcoa	723.3	5	1435.8	7	65.8	-22	143.1	-11	9.1	12.2	19.7	15	2.80
Alcoa Devices (2)	115.0	5	229.1	9	10.2	7	19.7	24	8.8	8.7	11.6	12	0.88
Alcoa	111.1	1	213.7	-1	8.1	15	14.5	14	7.3	6.4	14.0	9	2.19
Alcoa	747.3	3	1460.4	7	99.3	-24	196.3	-13	13.3	18.0	18.4	13	2.29
Alcoa Investment Group	156.3	4	300.2	2	3.4	67	20.3	494	2.2	1.4	78.2	5	4.83
Alcoa	140.9	52	274.8	66	4.5	-38	12.5	5	3.2	7.8	7.3	14	0.59
Alcoa Technology (4)	119.2	39	233.0	62	28.8	-2	58.0	25	24.2	34.2	29.1	4	3.69
Alcoa Semiconductor (7)	419.1	-1	293.2	7	-97.8	NM	-149.8	NM	NM	5.4	-27.9	NM	-2.09
Alcoa Technologies	118.7	-7	256.3	1	-35.1	NM	-34.7	NM	NM	4.1	-9.3	NM	-1.67
Alcoa Instruments	1563.5	0	3124.6	3	106.1	16	190.8	8	6.8	5.9	19.0	9	4.13
Alcoa & Betts	136.2	3	273.6	6	14.1	-12	29.6	-5	10.4	12.2	17.8	16	3.37
ALCOA GROUP	48348.3	15	93690.2	15	1298.4	6	2440.6	7	2.7	2.9	23.3	19	2.10
ALCOA DISTRIBUTION	6685.1	11	12356.8	11	64.8	-8	132.8	3	1.0	1.2	15.1	16	1.75
Alcoa	305.3	19	565.1	13	2.9	17	4.5	2	0.9	1.0	11.6	17	1.86
Alcoa International Multifoods (10)	502.9	8	982.7	7	4.5	-47	11.6	-29	0.9	1.8	10.4	13	2.26
Alcoa Holdings (8)	375.0	4	671.2	12	-5.9	NM	-4.2	NM	NM	0.2	-3.0	NM	-0.14
Alcoa-Sexton (8)	336.0	12	653.2	13	5.5	17	10.0	17	1.6	1.6	11.8	16	1.75
Alcoa Food Services (4)	391.4**	8	773.0	7	3.2	10	6.6	11	0.8	0.8	15.5	14	2.15
Alcoa Rite Foods (10)	200.9	16	411.2	21	2.4	16	4.7	18	1.2	1.2	17.7	16	1.54
Alcoa Valu Stores (10)	3273.5	10	5780.5	11	41.1	6	78.4	11	1.3	1.3	17.7	15	1.84
Alcoa (9)	1300.0	18	2520.0	12	11.1	10	21.1	12	0.9	0.9	19.2	15	1.87
ALCOA PROCESSING	21524.6	11	41690.9	12	1049.8	18	1922.0	17	4.9	4.6	23.2	18	2.85
Alcoa Maize-Products	166.8	16	303.9	18	5.8	76	7.9	116	3.5	2.3	3.7	25	0.86
Alcoa	1873.9	5	3677.8	9	83.9	14	143.0	13	4.5	4.1	17.6	16	4.44
Alcoa Soup (5)	1454.5	20	3036.8	19	43.6	95	138.4	29	3.0	1.9	18.9	27	2.17
Alcoa & Cooke	693.0	10	1256.1	6	35.2	-6	47.7	-23	5.1	6.0	12.6	25	1.69
Alcoa (7)	2971.9	16	5762.2	21	65.4	42	102.9	34	2.2	1.8	21.7	15	2.45
Alcoa International	1255.4	2	2518.6	9	83.1	15	150.8	16	6.6	5.9	24.8	17	3.96
Alcoa Foods (7)	437.7	9	868.5	9	22.2	166	34.5	71	5.1	2.1	21.8	15	2.28
Alcoa Mills (7)	1439.1	15	2825.5	16	57.7	7	144.9	14	4.0	4.3	43.1	18	3.85
Alcoa Products (9)	273.0	10	563.3	11	26.8	46	50.7	51	9.8	7.4	28.4	18	4.80
Alcoa (H. J.) (8)	1630.2	11	2996.7	10	117.2	15	220.2	14	7.2	6.9	27.6	18	3.34
Alcoa Foods	485.5	20	1057.7	18	25.1	23	64.8	14	5.2	5.1	14.8	20	1.69
Alcoa (Geo. A.) (2)	526.2	-2	1077.5	-1	9.8	29	23.5	19	1.9	1.4	14.7	16	1.66
Alcoa Foods (3)	177.5	23	319.7	22	13.6	127	17.6	NM	7.6	4.2	32.9	7	2.17
Alcoa	2341.5	3	4576.8	4	8.6	298	9.9	-39	0.4	0.1	11.5	12	1.18
Alcoa Holly (9)	177.0	18	331.8	31	4.1	NM	13.0	NM	2.3	NM	27.3	6	4.41
Alcoa	1234.0	14	2368.1	12	129.7	15	241.1	3	10.5	10.4	32.4	19	3.97
Alcoa	103.1	9	200.1	10	11.0	1	19.5	-3	10.7	11.5	19.0	19	1.22
Alcoa (11)	291.7	2	569.7	2	8.0	138	15.5	113	2.7	1.2	12.2	19	1.93
Alcoa's Pride (3)	176.2	33	334.2	32	13.6	932	15.2	NM	7.7	1.0	27.9	9	0.86
Alcoa Hi-Bred International (4)	608.1	9	744.7	13	114.6	-19	126.8	-4	18.8	25.3	14.3	16	2.56
Alcoa Purina (3)	1624.1	16	3213.4	14	83.8	15	174.6	8	5.2	5.2	NM	16	5.80
Alcoa Foods (2)	93.7	4	185.5	10	0.1	NM	-0.8	NM	0.2	NM	-21.6	NM	-2.70
Alcoa	128.1	28	251.4	37	8.7	-7	14.7	70	6.8	9.4	17.5	8	20.85
Alcoa Field Foods (8)	181.2	-6	389.5	-9	0.9	-71	5.9	-51	0.5	1.6	24.5	11	1.32
Alcoa (J. M.) (8)	93.5	18	178.5	15	6.8	13	12.8	14	7.3	7.6	19.1	18	3.75
Alcoa Foods (3)	606.1	22	1141.0	19	27.5	30	49.1	26	4.5	4.2	24.6	15	1.46
Alcoa Foods (3)	219.8	22	421.4	23	8.9	111	17.3	74	4.1	2.3	19.5	16	2.26
Alcoa (Wm.) Jr.	261.8	8	520.8	14	34.1	13	60.5	19	13.0	12.5	31.5	19	2.46

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CORPORATE SCOREBOARD

COMPANY	SALES				PROFITS				MARGINS		RETURN ON COMMON EQUITY 12 MONTHS ENDING 6-30	PRICE-EARNINGS RATIO 7-21
	2ND QUARTER 1989 \$ MIL.	CHANGE FROM 1988 %	6 MONTHS 1989 \$ MIL.	CHANGE FROM 1988 %	2ND QUARTER 1989 \$ MIL.	CHANGE FROM 1988 %	6 MONTHS 1989 \$ MIL.	CHANGE FROM 1988 %	2ND QUARTER 1989 %	2ND QUARTER 1988 %		
(c) FOOD RETAILING												
GROUP COMPOSITE	20138.6	20	39643.2	20	183.8	-31	385.8	-25	0.9	1.6	30.6	26
Albertson's (11)	1813.2	17	3702.6	20	44.4	25	96.3	27	2.4	2.3	20.7	19
American Stores (11)	5213.2	45	10602.1	43	21.5	-20	41.7	-43	0.4	0.8	7.9	27
Casey's General Stores (8)	105.8**	24	205.7	25	-1.2	NM	0.5	-87	NM	2.2	10.0	14
Circle K (8)	931.3**	39	1852.6	42	-23.1	NM	-10.3	NM	NM	2.1	3.0	57
Dairy Mart Convenience (11)	125.0*	2	249.3	0	-1.3	NM	-1.7	NM	NM	0.8	6.5	NM
Food Lion	1069.5	23	2080.3	26	32.0	16	60.7	23	3.0	3.2	26.0	28
Foodarama Supermarkets (2)	132.6	11	263.7	9	0.6	-6	0.6	-58	0.4	0.5	8.4	15
General Nutrition (11)	89.0	7	205.2	4	6.8	110	11.7	NM	7.6	3.9	16.7	21
Giant Food (10)	724.5	10	1691.1	10	26.5	29	62.2	31	3.7	3.1	24.3	18
Great Atlantic & Pacific Tea (10)	3439.6	14	5873.0	12	45.4	19	76.0	20	1.3	1.3	13.9	17
Hannaford Brothers	373.1**	23	721.2	25	10.7	52	19.3	37	2.9	2.3	18.2	16
Kroger	4425.9	-2	8916.7	1	1.4	-98	-17.6	NM	0.0	1.3	NM	NM
Marsh Supermarkets (9)	220.9*	10	427.9	5	2.6	50	4.2	42	1.2	0.9	14.9	15
Mayfair Super Markets (4)	151.1	7	303.8	6	2.4	-21	3.2	-49	1.6	2.2	19.4	21
Penn Traffic (11)	514.1**	211	954.5	190	-12.4	NM	-15.1	NM	NM	0.3	NM	NM
Ruddick (3)	338.7	20	653.6	19	5.9	21	10.3	11	1.7	1.7	12.8	12
Village Super Market (5)	162.6	7	329.7	8	0.9	-12	2.5	-13	0.5	0.7	11.5	10
Weis Markets	308.7	7	610.2	7	20.7	4	41.1	5	6.7	6.9	16.3	19
11 FUEL												
INDUSTRY COMPOSITE	90820.8	6	178547.0	5	3504.3	-16	9246.9	6	3.9	4.9	14.3	13
(a) COAL												
GROUP COMPOSITE	988.9	18	1864.9	14	34.9	-8	73.3	-13	3.5	4.5	11.8	13
Nacco Industries	257.9	71	408.7	57	13.4	-18	21.2	-9	5.2	10.8	17.4	9
Nerco	164.2	13	321.1	0	18.2	75	34.5	-33	11.1	7.2	14.3	10
Pittston	412.9**	5	831.5	8	4.1	-60	15.0	4	1.0	2.6	8.4	20
Westmoreland Coal	153.8	2	303.6	6	-0.8	NM	2.6	NM	NM	0.7	5.0	26
(b) OIL & GAS												
GROUP COMPOSITE	86921.8	6	171075.6	5	3318.1	-16	8906.0	6	3.8	4.8	14.5	13
Amerada Hess	1473.9**	67	2958.7	38	133.5	NM	353.7	739	9.1	NM	18.5	7
American Petrofina	847.4	29	1566.3	24	41.8	22	67.6	4	4.9	5.2	13.2	9
Amoco	6078.0	13	11989.0	14	497.0	-25	955.0	-16	8.2	12.3	13.9	13
Ashland Oil (3)	2093.8**	3	3872.0	3	43.5	-24	29.7	-62	2.1	2.8	16.5	11
Atlantic Richfield	4334.0*	-5	8296.0	-10	467.0	17	1171.0	46	10.8	8.7	29.2	9
Burlington Resources	423.8	0	866.0	-17	31.1	-72	88.4	-44	7.3	26.5	NA	35
Chevron	8200.0***	12	15900.0	7	404.0	-22	717.0	-39	4.9	7.1	8.8	15
Crown Central Petroleum	303.2	-1	587.5	4	6.3	-13	9.1	19	2.1	2.3	15.2	7
Diamond Shamrock R&M	549.7	18	1016.2	15	26.9	126	41.8	489	4.9	2.5	23.1	6
Exxon	23611.0***	9	45855.0	5	160.0	-87	1430.0	-46	0.7	5.5	13.0	15
Holly (5)	88.8	-2	167.4	-8	6.0	3	12.3	22	6.8	6.5	45.1	10
Kerr-McGee	821.2	17	1538.3	13	35.1	20	69.0	74	4.3	4.2	8.5	18
Louisiana Land & Exploration	204.9**	7	401.0	2	8.3	NM	28.9	NM	4.1	NM	-5.3	NM
Lyondell Petrochemical	1486.0	21	2754.0	16	103.0	-20	237.0	5	6.9	10.4	NM	NA
Mapco	535.0*	19	1003.4	13	28.4	-3	63.8	0	5.3	6.5	18.3	13
Maxus Energy	149.9	-1	295.7	-6	3.6	NM	-7.0	NM	2.4	NM	NM	NM
Mitchell Energy & Dev. (11)	158.2	4	310.9	1	6.1	-9	11.2	-1	3.8	4.4	0.1	NM
Mobil	14003.0***	0	28023.0	1	401.0	-17	830.0	-20	2.9	3.5	11.7	12
Murphy Oil	434.9**	17	821.4	13	16.8	78	23.2	681	3.9	2.5	7.9	22
Occidental Petroleum	5050.0	6	10193.0	11	84.0	-3	160.0	-19	1.7	1.8	4.4	29
Oryx Energy	304.0**	-8	610.0	-8	17.0	NM	34.0	NM	5.6	NM	0.4	NM
Phillips Petroleum	3264.0	15	6316.0	11	197.0	16	387.0	29	6.0	6.0	32.7	8
Quaker State	211.8	-10	406.7	-12	7.2	257	7.8	47	3.4	0.9	5.7	22
Sun	2920.0***	20	5560.0	15	105.0	NM	186.0	NM	3.6	NM	9.9	12
Texaco	8449.0**	-9	18059.0	0	366.0	-21	1821.0	148	4.3	5.0	26.8	6
Tosco	334.2	2	608.9	3	18.2	-20	13.0	-58	5.5	6.9	36.3	11
Union Texas Petroleum	366.5	23	673.3	2	85.9	198	135.7	103	23.4	9.7	69.0	11
Valero Energy	225.9	17	427.3	6	18.5	252	29.9	126	8.2	2.7	6.2	13
(c) PETROLEUM SERVICES												
GROUP COMPOSITE	2910.4	-3	5606.7	-1	151.4	-6	267.6	1	5.2	5.4	10.6	28
Baker Hughes (3)	589.0	4	1157.5	5	15.7	61	31.5	117	2.7	1.7	7.1	33
Dresser Industries (2)	1016.5	-5	1864.3	0	34.0	60	56.0	84	3.3	2.0	9.7	20
Ocean Drilling & Exploration	108.0**	10	206.3	5	-3.2	NM	-7.1	NM	NM	NM	-2.7	NM
Schlumberger	1196.9	-5	2378.6	-5	104.8	-27	187.1	-24	8.8	11.5	14.4	26
12 HEALTH CARE												
INDUSTRY COMPOSITE	29090.7	8	58457.8	9	2871.4	7	6021.0	10	9.9	9.9	23.9	18
(a) DRUG DISTRIBUTION												
GROUP COMPOSITE	4959.3	13	10145.0	13	104.8	18	250.2	17	2.1	2.0	16.7	17
Bergen Brunswig (4)	987.0**	11	1957.4	11	13.5	43	24.9	39	1.4	1.1	18.8	13
Big B (11)	105.6	51	188.6	34	2.3	-17	4.5	-26	2.1	3.9	9.9	21
Bindley Western Industries	374.3	23	736.5	20	1.0	0	1.9	-12	0.3	0.3	7.1	18
Cardinal Distribution (9)	203.3	31	401.5	32	2.4	58	5.4	65	1.2	1.0	13.8	15

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CORPORATE SCOREBOARD

COMPANY	SALES				PROFITS				MARGINS		RETURN ON COMMON EQUITY 12 MONTHS ENDING 6-30	PRICE- EARNINGS RATIO 7-21	12 MONTHS' EARNINGS PER SHARE
	2ND QUARTER 1989 \$ MIL.	CHANGE FROM 1988 %	6 MONTHS 1989 \$ MIL.	CHANGE FROM 1988 %	2ND QUARTER 1989 \$ MIL.	CHANGE FROM 1988 %	6 MONTHS 1989 \$ MIL.	CHANGE FROM 1988 %	2ND QUARTER 1989 %	2ND QUARTER 1988 %			
Emporium (10)	113.9	20	226.6	18	1.8	33	4.8	56	1.5	1.4	18.4	20	0.66
-Fillauer Medical	173.3	22	345.2	22	3.4	37	6.2	39	2.0	1.8	18.6	13	1.62
s (11)	131.1	7	281.0	7	1.4	48	6.1	32	1.0	0.7	17.5	16	0.76
ovese Drug Stores (11)	113.3	14	221.1	20	1.1	-3	3.7	21	1.0	1.2	15.8	14	0.82
s Drug Stores (11)	492.8	10	1042.3	10	14.4	9	31.4	11	2.9	2.9	18.1	15	2.82
y Drug Stores (2)	159.3	1	343.6	3	0.7	163	4.9	136	0.5	0.2	-11.5	NM	-0.54
Aid (10)	754.6	11	1573.8	15	24.4	3	60.5	1	3.2	3.5	15.1	17	2.32
green (4)	1350.7	11	2827.4	10	38.5	25	95.8	22	2.9	2.5	19.7	19	2.48
GS & RESEARCH													
UP COMPOSITE	11059.8	6	22355.4	8	1746.0	11	3606.9	12	15.8	15.1	26.8	19	3.24
frican Home Products	1400.7	2	2920.6	5	236.7	10	500.5	11	16.9	15.7	31.7	15	6.69
er-Wallace (9)	138.4	8	267.7	5	13.6	16	22.6	15	9.8	9.2	15.6	15	3.09
entech	93.9	9	181.2	15	9.6	-38	17.0	-45	10.2	18.0	1.7	NM	0.08
(Eli)	1121.5	11	2346.5	12	217.1	20	501.8	21	19.4	17.8	24.7	20	2.97
ion Laboratories (6)	260.5	25	503.8	26	70.5	77	125.5	59	27.1	19.1	44.6	24	1.46
ck	1585.2	6	3156.6	7	396.6	25	737.0	25	25.0	21.1	44.5	22	3.42
er	1302.7	-3	2739.0	4	135.7	-36	376.5	-13	10.4	15.9	16.4	14	4.36
er Group	277.0	10	518.2	10	12.4	9	22.2	12	4.5	4.5	14.5	19	2.03
ring-Plough	805.5	7	1637.3	9	120.5	19	246.2	22	15.0	13.4	24.8	18	3.86
hKline Beckman	1255.5	10	2497.3	9	118.6	20	248.8	-6	9.4	8.7	13.4	35	1.70
bb	710.0	10	1372.7	11	133.0	17	239.5	17	18.7	17.7	32.1	18	4.70
ex (5)	347.5	7	678.4	7	74.8	2	158.3	3	21.5	22.7	51.7	17	2.78
ohn	736.5**	2	1491.6	8	94.6	8	197.6	8	12.8	12.2	19.8	15	1.99
ner-Lambert	1024.7	8	2044.4	9	112.4	23	213.5	22	11.0	9.6	37.0	18	5.58
TH CARE SERVICES													
UP COMPOSITE	3994.8	9	7803.8	9	88.6	-45	244.4	-22	2.2	4.4	10.8	23	1.09
frican Medical Intl. (4)	720.1	-11	1398.3	-11	21.1	-37	39.2	-32	2.9	4.2	8.0	32	0.79
arly Enterprises	523.6	4	1034.7	4	-97.9	NM	-107.3	NM	NM	0.0	-28.8	NM	-2.45
munity Psychiatric Centers (1)	111.6	21	209.6	23	23.5	19	44.0	20	21.0	21.4	19.7	20	1.70
ana (4)	1065.2	20	2070.7	19	72.3	13	134.7	13	6.8	7.2	20.1	15	2.49
ime	107.8	17	213.1	15	2.3	78	3.7	65	2.1	1.4	9.4	19	1.08
iaq (3)	87.9**	12	175.7	14	3.0	61	6.5	42	3.4	2.4	-8.3	NM	-0.20
onal Medical Enterprises (7)	989.6**	14	1928.6	14	54.8	29	104.2	21	5.5	4.9	17.6	13	2.58
Healthcare	242.0	34	472.6	33	6.6	NM	11.9	NM	2.7	NM	10.3	44	0.31
ersal Health Services	147.0	7	300.5	6	2.9	30	7.4	21	2.0	1.6	4.8	20	0.52
CAL PRODUCTS													
UP COMPOSITE	9076.8	6	18153.7	7	932.0	9	1919.5	12	10.3	10.1	24.2	17	2.60
ott Laboratories	1318.5	7	2614.0	8	212.6	15	410.5	15	16.1	15.1	31.9	18	3.58
(C. R.)	201.0	4	398.2	7	21.8	10	43.1	13	10.8	10.3	25.7	15	1.49
ch & Lomb	318.1	28	594.4	29	27.4	16	46.6	16	8.6	9.5	16.7	17	3.48
er International	1856.0	10	3630.0	9	104.0	14	205.0	13	5.6	5.4	11.1	15	1.38
on, Dickinson (3)	442.8	1	905.7	4	39.0	-2	80.6	6	8.8	9.0	16.1	14	3.90
ol-Myers	1534.5	5	3136.7	5	212.5	11	449.6	12	13.8	13.1	24.3	17	3.05
per (2)	115.2	-25	245.9	-21	-31.2	NM	-35.3	NM	NM	NM	-36.0	NM	-7.09
ison & Johnson	2390.0	4	4835.0	5	297.0	10	614.0	12	12.4	11.8	28.7	16	3.10
itronic (8)	197.9	5	384.7	8	25.5	11	49.3	11	12.9	12.2	21.6	15	7.30
e Safety Appliances	101.7	0	204.3	5	7.2	12	13.3	24	7.1	6.3	11.5	14	4.07
ns & Minor	218.7	23	414.5	17	0.0	NM	0.9	-78	0.0	1.2	6.7	20	0.63
ns (A. H.)	187.2	-2	414.1	1	2.8	-68	19.1	-18	1.5	4.6	NM	13	2.30
Surgical	86.4	15	165.7	15	9.5	53	15.6	36	11.0	8.2	20.0	17	2.38
tmark International	109.1	25	210.5	18	4.0	92	7.3	77	3.7	2.4	5.7	28	1.34
USING & REAL ESTATE													
ISTRY COMPOSITE	8774.2	3	16531.9	6	512.1	2	791.7	2	5.8	5.9	21.4	12	2.00
ING MATERIALS													
UP COMPOSITE	6873.7	4	12898.1	7	456.1	-1	707.4	-2	6.6	7.0	25.8	11	2.33
ron (1)	104.2	6	190.2	12	4.5	-11	4.9	-10	4.3	5.1	8.6	13	2.84
es Group	134.1	3	262.9	3	6.1	6	9.6	-1	4.5	4.4	15.1	12	3.02
At	176.6**	7	329.2	3	17.1	49	30.3	18	9.7	7.0	12.4	15	1.96
oto	121.1	-2	220.2	-1	0.2	-95	1.6	-73	0.2	3.3	-1.1	NM	-0.29
es Supply (11)	126.2	8	251.8	9	2.0	-8	4.5	-3	1.6	1.8	10.3	10	1.96
on	168.7	-7	337.3	1	3.9	-29	9.7	23	2.3	3.0	18.5	12	0.79
rge	394.5	8	601.9	10	38.0	9	18.3	14	9.6	9.6	14.5	9	1.97
*Star Industries†	96.2	-12	154.5	-10	6.6	6	-9.7	NM	6.9	5.7	5.2	16	1.95
ville	564.6	7	1072.9	8	45.3	42	79.7	20	8.0	6.1	29.9	10	0.78
nd	121.6	0	226.4	2	1.8	-20	2.3	-29	1.4	1.8	4.7	19	1.18
ns-Corning Fiberglas	721.0	-2	1386.0	1	55.0	2	89.0	9	7.6	7.3	NM	7	4.83
Gem Industries	139.9	32	238.2	22	3.6	-43	5.8	-40	2.6	6.0	11.7	12	1.06
Industries	1490.0	3	2949.4	4	127.3	-5	257.1	2	8.5	9.2	21.4	10	4.25
† (7)	96.7	10	178.8	9	5.2	15	7.7	13	5.4	5.1	16.7	16	1.08
win-Williams	584.0	7	1048.8	9	38.7	7	47.5	7	6.6	6.6	17.5	13	2.39
hdown	159.7**	-12	289.8	19	3.6	-30	7.3	16	2.3	2.8	10.2	13	2.19
msh Products	398.8	34	801.7	36	25.5	41	47.2	25	6.4	6.1	12.6	10	14.56

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CORPORATE SCOREBOARD

COMPANY	SALES				PROFITS				MARGINS				RETURN ON COMMON EQUITY 12 MONTHS ENDING 6/30	PRICE- EARNINGS RATIO 7/21	MOV- EARN- P. SH
	2ND QUARTER 1989 \$ MIL.	CHANGE FROM 1988	6 MONTHS 1989 \$ MIL.	CHANGE FROM 1988	2ND QUARTER 1989 \$ MIL.	CHANGE FROM 1988	6 MONTHS 1989 \$ MIL.	CHANGE FROM 1988	2ND QUARTER 1989 %	2ND QUARTER 1988 %					
Texas Industries (7)	184.1	6	341.1	8	6.3	7	7.9	22	3.4	3.4	6.4	22	1		
TJ International	95.4	10	163.2	12	5.9	3	7.9	4	6.2	6.6	22.7	14	2		
USG	569.7	1	1107.7	-1	9.4	-71	10.4	-84	1.7	5.7	NM	16	0		
Valspar (2)	133.0	3	234.9	5	6.6	25	9.2	30	5.0	4.1	20.4	16	1		
Vulcan Materials	293.7	3	511.2	5	43.6	-5	59.2	-4	14.8	16.2	21.2	14	3		
(b) CONSTRUCTION & REAL ESTATE GROUP COMPOSITE	1900.5	-4	3633.9	3	56.0	36	84.2	51	2.9	2.1	7.0	18	0		
Blount (10)	194.8**	-31	439.9	-17	1.1	NM	2.6	NM	0.6	NM	-48.2	NM	-5		
Centex (9)	464.6**	6	951.6	15	15.3	134	28.4	147	3.3	1.5	12.7	11	3		
Champion Enterprises (10)	86.5	-4	162.6	4	-1.0	NM	-7.3	NM	NM	NM	-20.5	NM	-1		
Fairfield Communities	99.7**	16	160.7	11	-0.9	NM	-4.4	NM	NM	1.9	-0.6	NM	-0		
Grubb & Ellis	91.7**	-3	168.7	2	0.3	-68	-1.4	NM	0.4	1.1	1.8	54	0		
Kaufman & Broad Home (1)	247.2**	-14	421.2	1	20.0	74	31.5	70	8.1	4.0	25.6	9	2		
Lennar (1)	94.0**	4	167.0	0	6.4	7	12.2	1	6.9	6.7	11.7	8	2		
Ryland Group	341.4	5	635.9	8	10.5	-2	15.1	-7	3.1	3.3	23.0	8	3		
Skyline (7)	107.9	11	190.7	20	5.5	16	8.5	43	5.1	4.8	11.2	11	1		
U. S. Home	172.6	-6	335.6	-5	-1.3	NM	-1.0	NM	NM	1.0	1.8	22	0		
14 LEISURE TIME INDUSTRIES															
INDUSTRY COMPOSITE	14392.4	11	28084.1	11	920.3	-4	1660.3	2	6.4	7.4	17.6	22	1		
(a) EATING PLACES GROUP COMPOSITE	2699.8	9	5227.5	9	235.8	3	412.5	4	8.7	9.2	19.2	18	1		
Bob Evans Farms (8)	104.6	7	210.3	4	7.0	-8	15.1	-8	6.7	7.8	14.9	14	1		
Church's Fried Chicken	99.4**	0	187.6	1	-4.5	NM	-8.5	NM	NM	2.2	-11.0	NM	-0		
Collins Foods International (8)	124.8**	10	285.0	0	7.3	-4	14.2	13	5.9	6.8	12.8	16	1		
Jerrico (6)	169.5**	4	332.7	5	7.2	359	12.5	123	4.2	1.0	10.6	15	1		
Karcher (Carl) Enterprises (11)	148.8	21	259.8	23	5.7	-15	9.9	9	3.8	5.5	32.2	17	0		
McDonald's	1521.2	7	2883.7	9	196.0	11	337.7	11	12.9	12.5	19.7	17	1		
Morrison (7)	230.6**	31	437.6	24	8.5	13	17.4	18	3.7	4.3	18.9	17	1		
Shoney's (2)	203.2**	13	440.2	13	4.5	-68	7.5	-73	2.2	8.0	NM	17	0		
TGI Friday's	97.7**	-1	190.5	-3	3.9	20	6.7	21	4.0	3.3	11.0	19	0		
(b) ENTERTAINMENT GROUP COMPOSITE	4554.4	23	9083.5	23	311.5	29	594.9	36	5.8	6.5	15.8	25	2		
Commtron (4)	128.7**	5	252.6	10	1.6	75	3.2	118	1.3	0.8	13.6	11	0		
Disney (Walt) (3)	1167.6	28	2205.5	30	193.3	17	342.3	20	16.6	18.0	23.6	22	4		
MCA	861.4**	34	1596.7	27	42.0	419	69.3	98	4.9	1.3	11.6	22	2		
MGM/UA Communications (4)	267.8	53	509.6	53	-7.1	NM	-21.9	NM	NM	NM	-28.6	NM	-1		
Orion Pictures (10)	128.8	16	290.2	13	4.0	60	11.6	85	3.1	2.3	9.3	27	0		
Paramount Communications (2)	699.1	13	1472.2	11	-5.3	NM	6.4	-65	NM	0.4	11.4	25	2		
Warner Communications	1301.0	15	2756.7	20	83.0	19	184.0	33	6.4	6.2	25.1	22	2		
(c) HOTEL & MOTEL GROUP COMPOSITE	2996.7	9	5784.5	8	172.0	-30	287.1	-16	5.7	8.9	43.0	24	2		
Caesars World (5)	221.8	14	435.6	11	17.4	18	27.7	-9	7.8	7.5	29.8	15	2		
Circus Circus Enterprises (11)	127.5	-1	243.1	2	19.0	-9	30.6	-7	14.9	16.2	46.1	19	2		
Hilton Hotels	265.0**	6	490.1	6	42.0	3	55.1	-19	15.8	16.4	14.4	41	2		
Holiday	408.4**	0	775.7	-4	24.9	-77	59.3	-44	6.1	25.8	NM	21	2		
Marriott	1887.0	11	3673.0	10	67.0	4	113.0	3	3.6	3.8	33.2	19	2		
Showboat	87.2	17	167.0	21	1.7	NM	1.4	NM	2.0	NM	7.0	46	0		
(d) OTHER LEISURE GROUP COMPOSITE	4141.5	3	7988.6	4	201.0	-19	365.7	-11	4.9	6.2	12.8	19	1		
American Greetings (10)	283.5	-5	596.9	-1	17.5	13	31.8	95	6.2	5.2	8.1	18	1		
Anthony Industries	99.1	30	189.4	40	3.4	35	5.4	41	3.4	3.2	18.0	11	1		
Brunswick	771.9	-13	1563.0	-11	20.5	-74	37.7	-72	2.7	8.9	10.3	14	1		
Carnival Cruise Lines (1)	284.7	79	516.5	66	41.6	-20	87.9	-10	14.6	32.7	23.7	16	1		
Coachmen Industries	87.1	-28	178.9	-21	-0.4	NM	2.4	-60	NM	3.2	0.3	NM	0		
Fleetwood Enterprises (8)	425.5	13	772.3	13	17.7	18	30.3	32	4.2	4.0	18.2	9	3		
Harley-Davidson	234.1	14	431.1	14	10.9	25	18.7	26	4.6	4.2	24.1	8	3		
Hasbro	301.4	-2	589.7	-1	18.2	10	36.9	11	6.0	5.3	10.3	16	1		
Huffy	127.3	34	243.1	24	5.3	155	9.6	78	4.2	2.2	10.3	18	1		
Mattel	272.3	31	467.6	18	16.6	411	20.9	497	6.1	1.6	39.8	15	1		
Outboard Marine (3)	465.9	0	939.7	9	6.8	-76	18.7	-61	1.5	6.1	7.0	15	2		
Polaroid	486.6	1	928.9	4	42.7	72	68.6	76	8.8	5.1	-3.9	NM	0		
Tonka	189.4	-5	351.6	-4	0.1	NM	-6.0	NM	0.1	NM	7.8	23	0		
Winnebago Industries (4)	112.9	-16	220.0	-4	0.3	-94	2.9	-54	0.3	3.7	3.5	35	0		
15 MANUFACTURING															
INDUSTRY COMPOSITE	21544.0	13	40905.3	13	1280.4	7	2383.7	14	5.9	6.3	17.1	13	3		
(a) GENERAL MANUFACTURING GROUP COMPOSITE	8039.1	11	15698.8	12	616.0	-1	1187.0	7	7.7	8.7	18.8	15	3		
Avery International (1)	446.0	9	859.9	10	24.1	9	44.4	12	5.4	5.4	16.5	14	1		
Bic	95.5	2	175.9	8	7.7	-22	14.2	-17	8.0	10.6	12.9	13	1		
Corning†	579.8	16	1113.3	17	69.4	-14	110.5	-6	12.0	16.2	18.0	13	3		

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CORPORATE SCOREBOARD

COMPANY	SALES				PROFITS				MARGINS		RETURN ON COMMON EQUITY 12 MONTHS ENDING 6-30	PRICE- EARNINGS RATIO 7-21	MONTHLY EARNINGS PER SHARE
	2ND QUARTER 1989 \$ MIL	CHANGE FROM 1988 %	6 MONTHS 1989 \$ MIL	CHANGE FROM 1988 %	2ND QUARTER 1989 \$ MIL	CHANGE FROM 1988 %	6 MONTHS 1989 \$ MIL	CHANGE FROM 1988 %	2ND QUARTER 1989 %	2ND QUARTER 1988 %			
Crane	383.9	22	732.1	24	16.1	20	26.8	18	4.2	4.3	19.6	11	2
Fluorocarbon (11)	85.7	42	151.3	36	2.6	-16	4.3	-2	3.0	5.0	16.1	11	1
Harsco	355.0	10	725.0	17	-14.5	NM	1.0	-97	NM	6.7	-1.3	NM	-0
Hexcel	110.8	9	212.1	5	3.5	-22	5.0	-35	3.1	4.4	10.7	15	1
Hillenbrand Industries (11)	292.4	23	486.2	13	21.8	17	38.5	3	7.4	7.8	18.7	20	1
Illinois Tool Works	572.8	14	1066.6	11	44.4	13	81.4	15	7.8	7.8	19.2	14	2
Minnesota Mining & Mfg.	3025.0	4	6042.0	6	327.0	6	645.0	10	10.8	10.6	22.5	14	5
Newell	275.7	18	547.6	17	17.1	50	31.2	46	6.2	4.9	16.8	17	2
Norton	392.3	8	780.5	9	28.7	18	57.6	13	7.3	6.7	15.7	13	4
Oneida (11)	106.3	20	205.7	20	5.8	52	8.3	-20	5.4	4.3	16.6	11	1
Philips Industries (9)	255.9	14	501.5	26	15.6	4	24.1	5	6.1	6.7	18.9	13	1
Robertson (H. H.)	123.3	41	232.5	30	1.0	NM	-3.4	NM	0.8	NM	-7.3	NM	-0
Rubbermaid	333.6	18	682.6	17	28.2	16	57.5	15	8.5	8.6	20.0	24	1
Sealed Air	99.1	13	194.8	14	-2.3	NM	4.9	-64	NM	8.2	10.0	9	2
SPS Technologies	110.6	2	220.8	4	5.9	4	10.7	10	5.4	5.2	11.9	13	4
Teleflex	90.6**	11	181.0	14	7.2	15	14.0	17	8.0	7.7	18.3	13	2
Town & Country (10)	105.1	147	198.4	138	0.7	-57	0.8	-81	0.7	3.9	7.1	17	0
Valmont Industries	199.6	22	389.1	23	6.1	72	10.3	55	3.0	2.2	22.6	10	3
(b) MACHINE & HAND TOOLS													
GROUP COMPOSITE	2246.8	19	4157.7	13	82.1	-18	192.5	1	3.7	5.3	14.5	13	2
Black & Decker (3)	854.7	58	1425.4	32	-5.2	NM	20.6	-52	NM	4.0	10.6	15	1
Cincinnati Milacron	193.5	-2	382.6	-1	4.0	-32	9.6	-11	2.1	3.0	10.6	20	0
Clark Equipment	356.2	9	669.9	10	16.5	52	30.0	69	4.6	3.3	13.1	12	3
Kennametal (6)	124.5	11	249.1	11	8.7	24	18.2	34	7.0	6.2	15.0	12	2
Snap-on Tools	226.4**	3	458.5	6	27.3	-6	58.7	0	12.1	13.3	21.5	12	2
Stanley Works	491.5	1	972.1	2	30.8	18	55.4	17	6.3	5.4	15.7	14	2
(c) SPECIAL MACHINERY													
GROUP COMPOSITE	9153.9	15	17037.4	15	513.0	21	889.0	22	5.6	5.4	16.2	12	3
Allied Products	157.5	9	317.1	9	1.0	-69	5.7	24	0.6	2.2	3.4	19	0
Applied Materials (2)	122.8	49	229.5	57	13.9	59	27.4	90	11.3	10.6	23.0	8	3
Caterpillar	3041.0	17	5721.0	15	141.0	-3	282.0	7	4.6	5.6	14.7	9	6
Commercial Intertech (2)	110.0	8	211.2	16	5.7	39	8.9	55	5.2	4.0	12.3	14	1
Deere (2)	1670.4	15	2811.9	13	130.5	51	178.9	43	7.8	6.0	13.0	13	4
Dover	549.5	12	1064.2	11	42.1	11	74.2	-1	7.7	7.7	20.3	16	21
FMC	917.1	3	1754.2	9	55.6	47	89.6	44	6.1	4.2	NM	10	4
Goulds Pumps	131.6	7	245.5	10	7.1	6	13.6	17	5.4	5.5	12.7	17	1
Harnischfeger Industries (2)	353.9	15	674.8	18	13.0	19	22.1	57	3.7	3.6	8.4	14	1
Ingersoll-Rand	907.4	16	1709.2	15	52.4	31	93.1	26	5.8	5.1	13.7	14	31
Interlake	227.8	4	461.9	7	9.9	-5	18.1	-3	4.4	4.8	14.5	14	31
Pentair	303.9	49	578.7	45	10.3	5	19.3	3	3.4	4.8	16.6	8	3
Terex	122.6	54	225.7	53	5.3	46	8.9	44	4.4	4.6	23.1	7	21
Tyco Laboratories (7)	538.4	19	1032.6	21	25.1	21	47.1	25	4.7	4.6	19.5	18	21
(d) TEXTILES													
GROUP COMPOSITE	2104.2	6	4011.4	3	69.2	50	115.2	87	3.3	2.3	13.8	13	1
Albany International	130.3	10	248.5	9	12.9	4	22.3	19	9.9	10.5	21.9	13	1
Burlington Holdings (3)	585.0	-2	1131.8	-9	3.5	NM	5.7	NM	0.6	NM	-5.7	NA	-0
Fieldcrest Cannon	346.4	7	642.7	1	7.7	86	10.7	479	2.2	1.3	7.6	15	1
Salem Carpet Mills	109.1**	4	198.3	-1	2.4	11	3.1	7	2.2	2.1	13.5	9	1
Shaw Industries (6)	330.0	7	613.1	10	17.2	33	26.9	38	5.2	4.2	27.9	12	1
Springs Industries	488.9	7	960.8	9	16.7	12	32.0	26	3.4	3.3	10.8	13	3
Unifi (6)	114.4	40	216.1	38	8.7	26	14.5	15	7.6	8.4	23.8	14	2
(e) METALS & MINING													
INDUSTRY COMPOSITE	14128.3	13	27906.1	18	1335.0	2	2545.8	20	9.4	10.4	23.4	6	5
(a) ALUMINUM													
GROUP COMPOSITE	6091.1	21	11712.5	26	593.5	-4	1115.2	17	9.7	12.3	25.1	5	9
Aluminum Co. of America	2757.8	11	5382.2	17	285.2	20	561.2	35	10.3	9.5	21.5	6	11
Amox	1080.8	5	2060.4	6	130.9	-45	245.1	-23	12.1	23.1	36.7	3	7
Maxxam†	576.5	901	1148.7	968	26.7	170	33.7	205	4.6	17.2	23.6	11	3
Reynolds Metals	1676.0**	14	3121.2	19	150.7	12	275.2	34	9.0	9.2	23.4	5	10
(b) STEEL													
GROUP COMPOSITE	5200.4	3	11706.1	8	433.2	-1	734.2	5	7.5	7.8	22.5	7	3
Acme Steel	104.8	-1	213.9	7	5.0	-15	10.4	18	4.7	5.5	14.8	6	3
Allegheny Ludlum	333.8	5	697.7	18	36.7	40	71.1	52	11.0	8.3	52.3	6	5
Armco	665.6	-19	1565.4	-1	120.6	136	161.6	214	18.1	6.2	28.0	5	2
Bethlehem Steel	1433.6	3	2836.1	4	84.1	-41	148.8	-35	5.9	10.2	18.8	6	3
Carpenter Technology (6)	171.2	3	340.8	8	13.6	25	14.1	-22	7.9	6.5	9.4	16	3
Chaparral Steel (7)	129.2	23	241.6	22	13.3	17	25.0	19	10.3	10.9	32.7	8	1
Commercial Metals (4)	334.9	12	650.9	9	6.2	-23	13.1	-14	1.9	2.7	14.5	9	2
Cyclops Industries	301.5	19	608.3	23	12.1	49	21.3	48	4.0	3.2	80.8	5	5
Inland Steel Industries	1110.5	6	2211.9	10	45.3	-43	94.7	-27	4.1	7.6	12.8	7	5
Lukens	162.7	6	322.3	10	8.9	4	16.1	5	5.5	5.6	18.7	7	4
Nucor	336.2	23	646.1	25	16.3	-14	32.2	-11	4.8	6.9	12.3	19	3

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CORPORATE SCOREBOARD

COMPANY	SALES				PROFITS				MARGINS		RETURN ON COMMON EQUITY 12 MONTHS ENDING 6-30	PRICE-EARNINGS RATIO 7-21	12 MONTHS' EARNINGS PER SHARE
	2ND QUARTER 1989	CHANGE FROM 1988	6 MONTHS 1989	CHANGE FROM 1988	2ND QUARTER 1989	CHANGE FROM 1988	6 MONTHS 1989	CHANGE FROM 1988	2ND QUARTER 1989	2ND QUARTER 1988			
	\$ MIL.	%	\$ MIL.	%	\$ MIL.	%	\$ MIL.	%	%	%			
STEEL													
Ex (2)	131.7	9	247.1	11	8.7	39	15.8	107	6.6	5.2	23.3	7	2.37
ing-Pittsburgh Steel	301.1	3	588.6	6	41.8	0	73.2	0	13.9	14.3	NM	0	33.03
ington Industries (7)	283.7	8	535.3	9	20.8	7	36.7	8	7.3	7.4	20.4	14	1.58
METALS													
COMPOSITE	2236.8	21	4487.4	25	308.3	25	696.3	46	13.8	13.3	21.7	6	4.08
o	539.3	22	1157.5	30	50.8	17	119.3	36	9.4	9.8	17.2	5	5.67
land-Cliffs	115.8	5	199.3	13	17.9	20	30.8	47	15.5	13.5	30.0	6	4.71
s Minerals	453.5	38	889.3	51	61.7	44	142.7	105	13.6	13.0	21.3	4	5.85
ort-McMoRan Copper	95.5	66	179.5	37	24.4	77	49.2	53	25.5	24.0	76.7	6	2.60
stake Mining†	114.2**	5	212.8	6	6.5	-67	11.8	-67	5.7	18.0	5.1	33	0.40
na Copper	162.9	22	285.5	3	13.0	11	35.8	26	8.0	8.8	15.8	3	2.06
s Dodge	643.9	16	1336.4	19	126.4	36	292.3	58	19.6	16.8	29.3	4	15.73
ion Castparts (9)	111.6	1	227.2	4	7.7	13	14.4	-10	6.9	6.2	15.7	18	1.79
BANK FINANCIAL													
COMPOSITE	44828.5	23	85809.5	20	2167.6	-10	3954.0	-7	4.8	6.6	12.5	11	3.19
SPECIAL SERVICES													
COMPOSITE	25014.4	33	47244.3	28	1447.1	38	2238.7	4	5.8	5.6	16.5	11	3.31
any	260.6	8	496.9	7	17.4	24	24.4	31	6.7	5.8	9.2	12	8.16
can Express	6357.0**	26	12224.0	24	316.0	22	568.0	13	5.0	5.2	20.5	8	4.29
cial	397.4	20	756.1	15	30.6	12	58.3	7	7.7	8.3	13.1	12	4.39
(H&R) (8)	515.2**	9	654.6	10	115.5	9	105.8	11	22.4	22.4	29.2	17	1.90
on & Black	110.1**	10	229.7	11	6.2	-25	18.3	-81	5.6	8.2	17.7	16	2.30
ord	91.6	25	172.0	18	7.3	71	13.4	49	8.0	5.8	22.4	18	1.32
ds (A. G.) (10)	148.6**	23	282.5	23	14.5	314	25.9	185	9.8	2.9	14.8	12	2.23
ix	212.1	15	407.6	15	12.0	26	20.5	28	5.7	5.2	16.8	22	1.57
al Natl. Mortgage Assn.	2820.4**	7	5574.6	8	193.0	60	358.2	62	6.8	4.6	26.6	12	7.84
& McLennan	606.3**	6	1229.0	5	77.3	0	165.6	-3	12.7	13.5	37.2	16	4.06
il Lynch	3138.3**	26	6139.4	25	70.2	31	107.4	-12	2.2	2.1	12.2	8	4.20
an Stanley Group	1516.1**	45	2754.9	36	112.1	-17	193.3	-17	7.4	12.9	23.6	8	9.00
Webber Group	727.1**	29	1404.7	20	15.1	NM	24.3	16	2.1	0.0	3.0	28	0.74
ica	1401.7**	489	2640.1	465	63.4	99	114.8	88	4.5	13.4	10.8	7	3.42
on	2328.0**	63	3867.0	27	253.0	216	225.0	-11	10.9	5.6	6.8	18	1.49
ib (Charles)	139.9**	45	261.4	36	4.2	100	8.3	102	3.0	2.2	7.1	35	0.42
ion Lehman Hutton Holding	3289.0**	31	6292.0	26	55.0	45	40.0	-65	1.7	1.5	-0.1	NM	-0.02
nt Loan Marketing Assn.	829.2	57	1608.3	62	62.5	14	123.7	14	7.5	10.4	38.4	19	2.33
te	126.7	16	249.4	17	21.8	-6	43.5	-7	17.2	21.3	23.7	16	0.93
INSURANCE													
COMPOSITE	12299.6	8	23892.1	8	839.6	19	1610.7	10	6.8	6.1	12.8	9	4.56
Life & Casualty	5012.4	4	9570.2	6	169.6	25	343.2	28	3.4	2.8	11.0	9	6.45
se	911.0**	29	1759.0	28	30.0	20	56.0	19	3.3	3.5	9.5	5	2.87
can General	1065.0	17	2082.0	18	104.0	0	201.0	-3	9.8	11.4	9.1	11	3.21
can National Insurance	255.2	9	505.6	10	26.2	-7	52.4	6	10.3	12.0	6.4	11	3.44
	993.2**	1	1985.2	2	107.1	29	212.0	14	10.8	8.5	16.9	7	9.39
in's Fund	880.0	-6	1711.0	-11	46.0	-10	82.0	-35	5.2	5.5	12.5	9	3.77
rd Steam Boiler	124.9	11	242.9	9	19.6	14	39.4	17	15.7	15.2	27.3	12	3.74
ssive	365.3	9	714.2	10	35.7	55	58.2	8	9.8	6.8	25.6	7	4.17
	736.5**	11	1451.6	8	73.7	16	139.3	1	10.0	9.6	15.7	8	4.01
il	924.3	3	1872.6	7	102.6	35	192.8	17	11.1	8.5	19.1	7	7.91
ark	413.1	5	815.9	5	53.5	23	105.1	10	13.0	11.1	23.9	13	3.57
	104.8	9	205.2	8	5.9	-33	14.5	-25	5.6	9.1	9.8	9	2.79
	312.3	9	595.4	10	23.5	12	39.0	12	7.5	7.4	8.1	11	4.25
ms (A. L.)	201.7**	123	381.4	115	42.3	87	75.8	69	21.0	25.0	15.2	8	2.21
SAVINGS & LOAN													
COMPOSITE	7514.5	18	14673.5	18	-119.2	NM	104.7	-83	NM	10.5	4.6	17	1.08
nson (H. F.)	1078.3**	23	2058.5	23	39.7	-19	78.9	0	3.7	5.6	10.6	11	2.05
can Savings Bank	112.6**	10	218.7	10	7.4	-26	13.9	-23	6.6	9.8	13.0	4	3.99
l	794.2**	23	1545.5	22	19.1	-50	36.6	-50	2.4	6.0	7.1	6	3.92
and Savings	384.2**	17	758.1	14	3.8	-83	15.6	-73	1.0	6.7	2.6	8	1.55
savings Bank of N. Y.	296.1	20	578.0	17	2.2	-83	8.4	-70	0.8	5.3	3.5	12	1.12
y Savings & Loan Assn.	102.1**	44	199.4	40	5.8	22	26.8	145	5.7	6.7	19.5	7	4.17
of America	285.3**	12	600.0	17	-49.1	NM	-51.2	NM	NM	NM	-53.8	NM	-5.39
st Financial	142.9**	36	276.4	37	10.8	379	16.3	237	7.5	2.1	13.5	5	2.56
ial Corp. of Santa Barbara	114.1**	-1	233.3	-1	-10.3	NM	-9.0	NM	NM	0.6	-28.0	NM	-1.67
d (6)	723.1**	14	1375.1	13	29.2	-43	49.4	-43	4.0	8.1	10.4	6	3.92
me	272.7**	-21	614.9	-12	-225.4	NM	-264.3	NM	NM	NM	NM	NM	-12.64
1 West Financial	484.6	42	922.0	39	40.2	11	75.3	14	8.3	10.7	15.9	10	4.70
American Bank	421.1	19	817.9	12	-10.0	NM	1.1	-95	NM	NM	4.5	8	1.22
Western Financial	980.5**	26	1867.0	23	51.9	-20	109.1	-10	5.3	8.3	11.7	10	1.85
ed	481.3**	23	929.5	24	28.1	6	58.6	15	5.8	6.8	12.1	7	5.53
al Corp. of America	298.1**	8	604.1	11	-35.8	NM	-35.9	NM	NM	3.4	-14.2	NM	-2.74
ast Savings (9)	192.2**	11	383.7	11	-0.8	NM	0.7	-89	NM	1.1	-9.6	NM	-4.98
n's	100.0**	-2	197.8	1	-39.5	NM	-52.0	NM	NM	5.2	-51.7	NM	-2.84
rd Federal Bank	250.9**	18	493.5	18	13.4	-20	26.3	-10	5.3	7.9	13.0	6	1.80

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CORPORATE SCOREBOARD

COMPANY	SALES				PROFITS				MARGINS		RETURN ON COMMON EQUITY 12 MONTHS ENDING 6-30	PRICE-EARNINGS RATIO 7-21	MC EARNINGS
	2ND QUARTER 1989 \$ MIL	CHANGE FROM 1988 %	6 MONTHS 1989 \$ MIL	CHANGE FROM 1988 %	2ND QUARTER 1989 \$ MIL	CHANGE FROM 1988 %	6 MONTHS 1989 \$ MIL	CHANGE FROM 1988 %	2ND QUARTER 1989 %	2ND QUARTER 1988 %			
18 OFFICE EQUIPMENT & COMPUTERS													
INDUSTRY COMPOSITE	39995.8	11	75829.5	11	2315.4	-11	4465.6	-11	5.8	7.2	14.6	14	3.1
(a) BUSINESS MACHINES, SERVICES & SUPPLIES													
GROUP COMPOSITE	3766.9	12	7403.8	12	208.9	15	406.0	13	5.5	5.4	16.6	15	1.1
American Business Products	97.7	13	196.0	12	3.1	1	6.5	4	3.2	3.6	13.7	13	1.1
Businessland (6)	322.6	21	615.8	19	7.4	136	15.9	87	2.3	1.2	16.7	10	1.1
Deluxe	310.8	13	627.7	12	34.2	15	64.7	2	11.0	10.8	24.9	18	1.1
Dennison Mfg.	196.6	8	376.9	9	10.2	4	16.7	7	5.2	5.4	15.3	13	2.1
Diebold	116.9	6	231.3	6	8.9	45	16.4	27	7.6	5.5	9.5	16	2.1
Duplex Products (2)	85.8	10	165.7	13	3.8	23	7.1	22	4.5	4.0	10.6	14	1.1
Esselte Business Systems	338.7	-2	705.6	0	12.5	-9	29.0	-4	3.7	4.0	12.4	12	2.1
Harland (John H.)	89.3	4	173.0	4	15.0	17	29.2	14	16.8	14.9	22.4	16	1.1
HON Industries	140.6	11	287.6	11	7.6	84	17.2	100	5.4	3.3	26.4	15	1.1
Inacom Computer Centers (5)	93.3	38	177.9	38	1.8	43	3.8	31	1.9	1.8	13.5	13	0.1
Intelligent Electronics (2)	157.8	468	252.3	427	2.0	79	3.1	67	1.3	4.1	25.7	20	1.1
Miller (Herman) (7)	205.0	10	397.6	8	9.1	-18	20.0	-12	4.4	5.9	15.6	12	1.1
Nashua	245.7	-5	485.5	-3	4.7	-48	7.3	-55	1.9	3.5	10.6	14	2.1
Pitney-Bowes	704.0	7	1373.7	10	61.8	9	115.3	11	8.8	8.6	19.5	15	3.1
Reynolds & Reynolds (3)	143.9	-5	299.5	-1	5.6	310	13.1	436	3.9	0.9	15.5	8	3.1
Savin	94.1	4	183.3	4	0.1	NM	-0.8	NM	0.1	NM	-40.2	NM	-0.1
Softsel Computer Products	142.0	36	289.7	36	2.1	28	4.7	36	1.5	1.6	23.0	9	0.1
Standard Register	176.0	6	347.6	7	9.5	-1	18.0	-2	5.4	5.8	12.4	15	1.1
Wallace Computer Services (5)	106.1	10	217.0	13	9.4	11	18.9	12	8.8	8.8	15.4	15	3.1
(b) COMPUTERS & PERIPHERALS													
GROUP COMPOSITE	32966.9	10	61995.7	9	1819.4	-17	3482.7	-17	5.5	7.3	13.7	13	4.1
AM International (5)	223.0	4	429.8	5	8.1	72	13.9	43	3.6	2.2	0.2	NM	0.1
Amdahl	470.6	11	941.0	19	32.8	-38	78.4	-18	7.0	12.4	19.3	9	1.1
Apple Computer (3)	1248.2	26	2495.1	34	96.1	5	152.5	-11	7.7	9.2	33.3	13	3.1
AST Research (6)	123.5	-9	237.3	-2	2.5	-68	1.2	-91	2.0	5.7	-6.9	NM	-0.1
Compaq Computer	722.1	58	1404.9	57	83.9	43	167.1	58	11.6	12.8	32.1	12	7.1
Conner Peripherals	164.0	227	294.8	218	9.4	114	15.1	95	5.8	8.8	24.4	15	0.1
Control Data	804.3	-15	1647.8	-11	-497.3	NM	-493.8	NM	NM	1.0	-48.4	NM	-12.1
Cray Research	128.3	-5	244.4	-13	4.4	-77	5.9	-87	3.4	14.2	17.2	12	3.1
Data General (3)	306.1	-7	648.8	-5	-23.1	NM	-16.1	NM	NM	0.2	-13.8	NM	-2.1
Dell Computer (11)	87.5	86	167.6	75	2.1	-28	5.4	-11	2.3	6.1	17.8	10	0.1
Digital Equipment (6)	3494.9	5	6620.6	7	313.2	-22	569.7	-19	9.0	12.0	14.1	11	8.1
Dynatech (9)	102.8	4	201.1	1	4.0	-37	4.1	-69	3.9	6.4	11.0	13	1.1
Everex Systems (5)	98.8	41	192.0	46	5.9	128	10.7	119	5.9	3.7	16.4	15	0.1
Hewlett-Packard (2)	2864.0	15	5521.0	18	203.0	0	396.0	4	7.1	8.1	16.9	15	3.1
Intergraph	219.2	8	404.9	7	20.4	-13	40.0	-1	9.3	11.5	13.5	11	1.1
International Business Machines	15213.0	9	27943.0	8	1340.0	39	2290.0	21	8.8	6.9	15.3	11	5.1
Maxtor (9)	108.5	35	206.2	24	2.2	10	3.6	-56	2.0	2.5	4.1	35	0.1
NCR	1527.1	2	2777.6	0	110.4	-2	171.5	-8	7.2	7.5	19.6	11	5.1
Prime Computer	382.0	-6	768.9	0	-19.0	NM	-24.0	NM	NM	1.8	-4.9	NM	-0.1
Quantum (9)	91.8	136	169.5	109	11.6	NM	18.5	NM	12.6	1.5	23.8	13	1.1
Seagate Technology (6)	370.5	1	728.0	3	24.0	45	45.5	15	6.5	4.5	0.1	NM	0.1
Silicon Graphics (6)	85.2	84	153.6	74	4.8	39	7.9	15	5.6	7.5	7.3	28	0.1
Storage Technology	236.0	13	450.1	10	4.4	-22	5.9	-59	1.9	2.7	11.0	8	1.1
Tandem Computers (3)	420.7	24	784.1	21	30.8	78	47.6	17	7.3	5.1	11.5	18	1.1
3Com (7)	111.7	46	218.9	53	8.2	12	18.9	36	7.4	9.6	16.7	14	1.1
Unisys	2574.5	8	4776.3	0	53.6	-67	-25.1	NM	2.1	6.8	7.1	16	1.1
Wyse Technology (9)	112.4	-26	217.6	-26	-4.1	NM	-10.6	NM	NM	5.6	-22.2	NM	-2.1
Zenith Electronics	676.4	15	1350.9	16	-13.0	NM	-17.0	NM	NM	NM	0.0	NM	0.1
(c) COMPUTER SOFTWARE & SERVICES													
GROUP COMPOSITE	3262.2	24	6430.4	25	287.1	25	576.9	23	8.8	8.7	24.8	17	1.1
Comdisco (3)	420.0**	31	857.0	36	29.0	38	54.0	32	6.9	6.5	21.1	11	1.1
Computer Associates Intl. (9)	244.0	31	555.4	42	26.7	58	81.8	61	11.0	9.1	23.2	17	1.1
Computer Sciences (9)	342.1	14	702.3	15	13.1	12	30.0	17	3.8	3.9	13.9	16	1.1
Electronic Data Systems	1376.6**	15	2664.5	15	104.9	10	204.9	11	7.6	8.0	27.2	16	1.1
Lotus Development	132.2	8	252.2	5	10.3	-41	15.6	-56	7.8	14.2	19.3	28	0.1
Mentor Graphics	94.7	31	185.2	33	11.1	37	21.5	44	11.7	11.2	17.2	16	1.1
Microsoft (6)	220.2	29	417.3	26	45.4	51	86.5	28	20.6	17.6	33.5	18	1.1
Microamerica	127.0	33	258.6	33	1.8	-6	4.4	3	1.5	2.1	10.8	12	0.1
Novell (2)	89.3	31	168.7	38	11.2	31	20.9	49	12.6	12.5	23.1	21	1.1
Oracle Systems (7)	215.9	107	369.3	105	33.5	76	57.5	79	15.5	18.3	42.4	26	0.1
19 PAPER & FOREST PRODUCTS													
INDUSTRY COMPOSITE	20672.6	11	39967.9	11	1513.8	12	2963.0	16	7.3	7.3	17.7	8	4.1
(a) FOREST PRODUCTS													
GROUP COMPOSITE	7648.5	10	14657.4	11	513.5	19	983.6	23	6.7	6.2	17.2	9	4.1
Boise Cascade	1091.4	8	2190.5	8	75.3	4	153.5	9	6.9	7.2	17.5	7	0.1
Georgia-Pacific	2640.0	9	5087.0	12	172.0	46	326.0	46	6.5	4.9	21.5	8	0.1
Louisiana-Pacific	526.1	11	993.1	12	48.4	24	88.3	31	9.2	8.2	14.4	9	0.1

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CORPORATE SCOREBOARD

COMPANY	SALES				PROFITS				MARGINS		RETURN ON COMMON EQUITY 12 MONTHS ENDING 6-30	PRICE- EARNINGS RATIO 7-21	12 MONTHS' EARNINGS PER SHARE
	2ND QUARTER 1989 \$ MIL.	CHANGE FROM 1988 %	6 MONTHS 1989 \$ MIL.	CHANGE FROM 1988 %	2ND QUARTER 1989 \$ MIL.	CHANGE FROM 1988 %	6 MONTHS 1989 \$ MIL.	CHANGE FROM 1988 %	2ND QUARTER 1989 %	2ND QUARTER 1988 %			
Talbot	161.6	32	309.1	30	11.2	63	20.6	39	6.9	5.6	22.2	8	3.19
Thaeuser	2644.0	8	4965.2	8	154.9	3	302.9	14	5.9	6.2	14.1	10	2.86
ette Industries	491.5	16	929.3	12	47.1	11	86.9	5	9.6	10.0	21.3	7	6.51
Industries (8)	94.0	18	183.2	24	4.7	100	5.4	115	5.0	2.9	24.5	10	1.40
COMPOSITE	13024.0	12	25310.5	11	1000.4	8	1979.3	13	7.7	7.9	17.9	8	4.91
er	363.6	3	722.3	4	38.0	-7	76.9	-2	10.4	11.6	18.3	6	4.33
ion International	1289.3	2	2578.0	2	113.9	1	227.4	6	8.8	8.9	13.7	7	4.94
apeake	213.4	16	401.4	16	12.0	1	24.9	14	5.6	6.4	18.9	8	2.66
idated Papers	238.5	8	480.9	6	43.6	12	87.0	11	18.3	17.6	21.3	11	3.64
ter (P. H.)	156.6	9	312.1	12	24.8	18	49.2	25	15.9	14.6	26.0	12	3.80
Northern Nekeosa	988.4	15	1974.8	16	90.2	6	183.5	12	9.1	10.0	22.4	6	6.55
ational Paper	3000.0	25	5600.0	19	229.0	22	452.0	30	7.6	7.8	17.7	7	7.55
River Corp. of Virginia (8)	1643.2	18	3029.6	15	74.3	26	133.3	23	4.5	4.2	11.4	11	2.87
ry-Clark	1396.0	4	2817.8	7	101.3	1	204.4	6	7.3	7.5	20.5	13	4.84
	1207.4	4	2336.3	4	62.2	-15	114.8	-17	5.2	6.3	21.2	8	5.18
aper	1254.1	8	2523.0	10	71.5	-5	158.0	6	5.7	6.5	20.3	9	5.32
Camp	111.8	8	1418.0	9	81.4	10	161.1	14	11.4	11.2	19.6	8	4.57
aco (2)	561.7	5	1116.3	8	58.2	29	106.8	29	10.4	8.5	16.0	9	3.47
PUBLISHING & BROADCASTING													
TRY COMPOSITE	10894.2	6	21053.2	5	1177.3	11	2105.4	6	10.8	10.2	18.5	21	2.78
CASTING													
COMPOSITE	2359.5	6	4549.6	1	293.0	8	456.5	13	12.4	12.3	15.9	26	4.96
can TV & Communications	240.1	19	472.8	20	23.2	12	43.0	12	9.7	10.3	26.6	69	0.69
l Cities/ABC	1226.6	6	2346.9	-4	140.2	23	222.9	21	11.4	9.8	13.9	21	23.78
	771.9	4	1502.5	5	118.8	-8	175.1	1	15.4	17.4	12.2	19	11.09
edia	121.0	6	227.3	6	10.8	31	15.4	65	8.9	7.2	NM	37	2.67
ING													
COMPOSITE	8534.8	5	16503.6	6	884.4	13	1648.9	5	10.4	9.7	19.3	20	2.49
ed Publications	137.7	-2	268.1	0	12.4	-23	21.3	-22	9.0	11.5	-18.5	NM	-0.50
A. H.)	109.3	8	200.3	6	9.7	59	12.0	73	8.8	6.0	6.4	48	0.74
orce Clearing House	173.9	11	386.8	14	12.9	-28	41.7	-6	7.4	11.3	19.7	21	2.60
ones	437.7	6	844.5	5	48.4	-2	248.4	62	11.0	12.0	24.2	11	3.23
Bradstreet	1057.6	0	2117.4	2	150.4	29	293.7	22	14.2	11.0	26.1	19	2.95
it	904.2	7	1721.7	7	112.1	15	187.0	9	12.4	11.5	20.9	20	2.36
on Mifflin	110.4	16	154.0	15	10.5	10	-0.7	NM	9.5	10.0	14.6	22	1.77
-Ridder	578.7	12	1119.4	11	70.1	67	90.8	21	12.1	8.1	22.3	17	3.03
chly Newspapers	97.3	8	184.2	7	10.0	32	14.8	23	10.3	8.4	12.0	24	1.10
ow-Hill	482.2	9	898.3	7	50.8	13	73.9	3	10.5	10.1	20.3	19	3.86
General	149.9**	-24	299.2	-22	6.1	-63	17.9	-35	4.0	8.2	-0.3	NM	0.04
ith (6)	208.9	8	405.6	13	7.4	10	12.1	13	3.5	3.5	9.1	21	1.75
ork Times	460.3	4	883.4	3	39.2	-10	70.7	-19	8.5	9.8	16.5	18	1.83
r Publishing	103.3	3	197.4	4	6.9	8	10.0	13	6.7	6.4	60.5	14	1.98
s (E. W.)	320.9	5	615.8	5	25.2	9	40.3	18	7.8	7.6	11.9	25	0.97
	1218.0	11	2354.0	9	94.0	12	143.0	-5	7.7	7.6	20.0	28	4.92
Mirror	861.3**	7	1694.3	9	85.0	8	153.8	0	9.9	9.8	19.2	16	2.57
e	643.1	5	1196.1	5	69.2	9	106.0	11	10.8	10.4	18.7	19	2.97
ngton Post	374.5	8	716.3	7	60.5	23	102.0	-47	16.2	14.2	19.9	21	13.77
rn Publishing Group (11)	105.6**	-17	246.6	-6	3.8	-36	10.2	-10	3.6	4.6	16.2	16	1.35
VICE INDUSTRIES													
TRY COMPOSITE	14024.7	21	26747.5	20	726.3	21	1297.4	20	5.2	5.2	15.9	24	1.48
DUCTION & ENGINEERING													
COMPOSITE	4639.8	27	8707.7	25	90.3	41	169.6	33	1.9	1.7	-1.3	NM	-0.13
e Enterprises (10)	130.1	41	252.4	38	2.8	16	6.0	22	2.2	2.6	16.5	18	1.03
Mfg.	142.1	-10	272.6	-7	2.9	-19	5.4	-5	2.0	2.2	12.2	13	3.34
stion Engineering	1009.2	11	1875.6	13	20.3	33	31.9	10	2.0	1.7	-40.1	NM	-6.34
	410.7	21	801.6	19	17.5	-8	34.2	-4	4.3	5.6	20.6	15	2.26
	1633.2	42	3053.6	40	23.9	132	45.5	136	1.5	0.9	12.7	32	1.04
Engineering Group (3)	228.6	20	419.3	9	2.6	62	5.0	56	1.1	0.8	16.5	16	1.67
on Knudsen	570.4	23	1031.5	18	7.2	306	13.6	53	1.3	0.4	-14.1	NM	-2.97
abrator Group	385.0	50	727.3	45	7.1	45	14.5	34	1.8	1.9	9.1	29	0.31
Industries (9)	130.6	27	273.9	34	6.0	18	13.6	31	4.6	4.9	12.2	20	2.05
TRIAL DISTRIBUTION													
COMPOSITE	3668.8	11	7187.5	10	169.6	11	330.5	12	4.6	4.6	19.0	16	2.05
	113.4	12	215.7	11	7.4	14	13.4	15	6.5	6.4	14.9	21	1.56
(A. M.)	131.0	4	272.3	10	2.7	-43	6.3	-25	2.0	3.7	17.0	8	1.99
ne Parts	812.3	9	1583.2	9	50.0	10	95.0	11	6.2	6.1	21.5	16	2.47
Petroleum (11)	272.8	3	571.2	-9	7.7	7	17.4	15	2.8	2.7	25.4	9	2.40
er (W. W.)	446.9	13	840.5	13	30.3	4	57.9	9	6.8	7.3	17.4	15	4.14
isen (Earle M.)	135.4	14	274.3	18	7.2	168	12.3	123	5.3	2.3	10.5	12	2.49
all Industries (7)	134.8	11	268.5	17	4.6	-14	10.0	-3	3.4	4.4	16.6	6	2.31

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CORPORATE SCOREBOARD

COMPANY	SALES				PROFITS				MARGINS		RETURN ON COMMON EQUITY 12 MONTHS ENDING 6-30	PRICE-EARNINGS RATIO 7-21
	2ND QUARTER 1989 \$ MIL.	CHANGE FROM 1988 %	6 MONTHS 1989 \$ MIL.	CHANGE FROM 1988 %	2ND QUARTER 1989 \$ MIL.	CHANGE FROM 1988 %	6 MONTHS 1989 \$ MIL.	CHANGE FROM 1988 %	2ND QUARTER 1989 %	2ND QUARTER 1988 %		
Morgan Products	114.8	-1	220.3	3	1.7	-47	1.9	-58	1.5	2.7	3.1	48
Premier Industrial (7)	160.6	10	306.7	11	19.3	5	34.9	4	12.0	12.6	34.7	19
Safety-Kleen	110.1	16	211.3	15	10.5	16	20.5	14	9.5	9.5	19.3	24
Stewart & Stevenson Services (11)	127.7	75	267.5	29	6.6	481	13.7	60	5.2	1.6	24.1	16
TBC	117.9	-6	229.1	-1	4.0	-3	7.4	1	3.4	3.3	23.5	10
United Stationers (4)	241.0	13	487.9	14	6.4	18	13.5	20	2.7	2.5	16.4	12
Univar (10)	359.6	11	675.2	13	4.7	16	9.4	42	1.3	1.3	18.0	14
VWR (10)	150.1	-2	291.7	0	1.0	-49	5.4	15	0.7	1.2	13.4	12
Willcox & Gibbs	137.9	53	272.2	50	4.6	36	8.9	31	3.4	3.8	17.1	15
Wyle Laboratories (11)	102.6	0	199.8	3	1.1	-47	2.6	-25	1.0	2.0	7.3	13
(c) POLLUTION CONTROL GROUP COMPOSITE	2383.2	30	4466.2	29	262.7	24	479.8	23	11.0	11.6	20.9	26
Browning-Ferris Industries (3)	661.1	22	1256.0	23	71.2	16	130.0	16	10.8	11.3	22.5	23
Chemical Waste Management	221.8	43	411.6	38	34.5	33	63.5	30	15.5	16.8	22.6	30
Waste Management	1118.8	26	2077.7	26	141.9	23	257.5	22	12.7	13.0	22.3	26
Wheelabrator Technologies	381.5	51	721.0	45	15.1	60	28.9	57	4.0	3.7	9.9	27
(d) PRINTING & ADVERTISING GROUP COMPOSITE	1333.8	9	2594.2	12	90.2	22	140.9	15	6.8	6.1	16.0	18
Advo-System (3)	157.8	2	297.1	2	5.4	NM	2.2	NM	3.4	NM	-22.3	NM
Banta	136.6	11	273.6	38	6.2	15	11.3	8	4.5	4.4	13.0	14
Donnelley (R. R.) & Sons	722.3	10	1430.0	10	50.3	11	91.0	11	7.0	6.9	16.3	17
Interpublic Group	317.1**	12	593.6	13	28.3	17	36.3	18	8.9	8.6	20.4	17
(e) OTHER SERVICES GROUP COMPOSITE	1999.2	27	3791.8	26	113.5	19	176.7	22	5.7	6.1	23.9	16
Adia Services	148.0**	21	289.9	22	5.4	19	10.3	19	3.6	3.7	12.7	17
American Bldg. Maintenance (2)	156.4	10	308.4	10	2.0	34	3.4	25	1.3	1.0	12.0	17
CDI	220.1	20	425.4	24	5.4	37	9.9	47	2.4	2.1	22.3	18
Handleman (8)	151.4	10	346.0	19	10.8	11	24.3	21	7.1	7.0	21.1	14
JWP	393.5	115	738.4	107	9.0	29	16.8	34	2.3	3.8	20.8	15
Kelly Services	343.3	9	667.0	9	18.1	18	33.6	22	5.3	4.8	27.5	18
National Education	96.6	-8	196.1	-4	-1.5	NM	5.5	-61	NM	7.2	19.4	12
Rollins	115.5	4	204.3	4	10.6	-15	13.6	-11	9.1	11.1	37.6	19
Sotheby's Holdings	169.7	57	220.1	40	51.2	62	56.4	54	30.2	29.4	57.8	17
Valcom	87.9	66	169.1	69	1.3	26	2.7	26	1.5	2.0	18.4	9
Volt Information Sciences (2)	116.8	-2	227.0	0	1.3	14	0.1	NM	1.1	1.0	2.5	NM
22 TELECOMMUNICATIONS	38931.8	7	76260.5	7	3732.5	5	7208.4	6	9.6	9.7	11.0	21
(a) EQUIPMENT & SERVICES GROUP COMPOSITE	13279.6	11	25755.9	10	973.9	35	1818.9	36	7.3	6.0	-3.6	NM
American Telephone & Telegraph	9256.0	5	17915.0	4	699.0	18	1293.0	19	7.6	6.7	-12.1	NM
Communications Satellite	102.8	16	200.2	16	18.3	4	34.8	9	17.8	19.9	11.5	11
Communications Transmission (7)	103.0	123	205.6	217	-3.0	NM	-6.6	NM	NM	NM	NM	NM
DSC Communications	104.0	34	194.1	24	8.1	71	13.3	54	7.8	6.1	11.3	25
M/A-Com (3)	102.3	1	208.4	0	2.0	-53	5.0	-44	2.0	4.2	5.8	16
MCI Communications	1594.0	31	3094.0	32	150.0	142	295.0	146	9.4	5.1	32.9	19
Telecom-USA	164.8	32	319.8	31	9.0	46	17.5	48	5.5	4.9	18.9	26
United Telecommunications	1852.7	19	3618.8	19	90.5	138	166.9	127	4.9	2.4	12.1	31
(b) TELEPHONE COMPANIES GROUP COMPOSITE	25652.3	5	50504.7	5	2758.6	-3	5389.5	-1	10.8	11.6	14.1	14
Alltel	311.3	17	587.2	11	37.6	-4	76.6	5	12.1	14.8	16.4	16
Ameritech	2552.9	3	5053.6	3	316.6	-10	617.4	-5	12.4	14.2	15.5	13
Bell Atlantic	2882.2	6	5648.9	6	360.8	5	709.6	5	12.5	12.7	14.6	13
BellSouth	3468.5	3	6836.1	4	418.1	6	799.3	-3	12.1	11.8	12.8	15
Centel	298.4	12	579.9	11	4.6	-83	5.3	-91	1.5	10.0	6.4	52
Cincinnati Bell	227.4	27	449.9	28	24.0	3	48.6	12	10.6	13.0	17.6	24
Contel	755.0	8	1503.0	10	67.0	-41	131.0	-25	8.9	16.2	16.9	18
GTE	4323.5	3	8446.1	4	328.8	10	658.0	12	7.6	7.1	15.3	15
Nynex	3299.2	4	6533.9	5	279.0	-14	562.6	-11	8.5	10.2	13.1	12
Pacific Telesis Group	2407.0	2	4750.0	2	325.0	1	642.0	3	13.5	13.6	15.0	15
Rochester Telephone	134.9	14	265.8	14	13.1	7	25.5	8	9.7	10.3	15.5	16
Southern New England Tel.	416.9**	7	824.0	8	63.9	63	105.2	38	15.3	10.1	15.7	13
Southwestern Bell	2140.5	5	4198.1	4	261.5	23	500.3	16	12.2	10.5	13.2	14
US West	2434.6	8	4828.2	9	258.6	-23	508.2	-12	10.6	14.9	14.2	12
23 TRANSPORTATION	27675.5	15	53042.7	14	1504.4	63	2523.1	65	5.4	3.8	14.2	11
(a) AIRLINES GROUP COMPOSITE	11921.8	19	22604.4	19	696.7	36	997.4	73	5.8	5.1	18.8	9
Alaska Air Group	226.6	12	424.3	13	10.5	13	16.9	109	4.7	4.6	14.8	9
America West Airlines	238.6	24	471.7	30	1.9	NM	8.4	NM	0.8	NM	16.4	15
AMR	2715.7	26	5166.7	25	177.9	26	278.9	33	6.6	6.5	16.5	7

Footnotes on page 109



An imposing majority of today's magazines and newspapers are designed and written on the screens of Kodak Atex computer systems. Kodak Atex systems have been the favorite of magazine and newspaper journalists around the world for over 15 years. Publications large and small are designed and written on computers driven by Atex software. The latest evolution: a totally integrated PC-based system for magazine art, editorial and production/makeup departments. Other kinds of publications—instruction and training manuals which need frequent updating, for example—are created on the screens of Kodak electronic publishing systems.

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CORPORATE SCOREBOARD

COMPANY	SALES				PROFITS				MARGINS				RETURN ON COMMON EQUITY 12 MONTHS ENDING 6-30	PRICE- EARNINGS RATIO 7-21
	2ND QUARTER 1989 \$ MIL.	CHANGE FROM 1988 %	6 MONTHS 1989 \$ MIL.	CHANGE FROM 1988 %	2ND QUARTER 1989 \$ MIL.	CHANGE FROM 1988 %	6 MONTHS 1989 \$ MIL.	CHANGE FROM 1988 %	2ND QUARTER 1989 %	2ND QUARTER 1988 %				
Braniff (11)	139.9	49	265.4	53	-21.2	NM	-34.3	NM	NM	NM	NM	NM	NM	NM
Delta Air Lines (6)	2311.7	23	4349.8	21	190.8	85	275.8	73	8.3	5.5	18.9	7		
Midway Airlines	126.5	13	243.7	21	5.0	-39	6.8	140	4.0	7.4	9.6	20		
NWA	1648.0	19	3125.8	19	70.8	149	83.3	NM	4.3	2.1	14.2	15		
Southwest Airlines	263.6	22	493.0	25	19.2	27	38.9	154	7.3	7.0	14.7	11		
UAL	2516.5	10	4844.3	11	141.1	14	206.5	36	5.6	5.4	50.7	7		
USAir Group	1734.7	16	3219.6	17	100.7	9	116.2	58	5.8	6.2	10.0	11		
(b) RAILROADS														
GROUP COMPOSITE	7785.9	3	15235.8	3	604.8	294	1032.4	88	7.8	2.0	11.8	12		
Burlington Northern	1155.0	-2	2280.5	-3	56.0	-3	89.2	-9	4.8	4.9	21.2	9		
Consolidated Rail	881.0	0	1753.0	3	82.0	-15	142.0	-2	9.3	11.0	7.4	8		
CSX	1974.0	4	3818.0	5	130.0	NM	207.0	NM	6.6	NM	13.6	9		
Kansas City Southern Industries	125.3	0	249.7	1	9.3	66	16.8	132	7.4	4.5	-12.6	NM		
Norfolk Southern	1170.0	6	2281.8	7	173.7	10	307.5	11	14.8	14.3	12.9	10		
Santa Fe Southern Pacific	722.2	-7	1412.3	-6	2.7	-88	-19.8	NM	0.4	2.8	14.9	34		
Soo Line	133.4	-7	264.5	-11	-0.8	NM	-0.2	NM	NM	3.3	2.2	30		
Union Pacific	1625.0	10	3176.0	8	152.0	15	290.0	10	9.4	8.9	13.1	14		
(c) TRANSPORTATION SERVICES														
GROUP COMPOSITE	4625.2	23	8720.0	20	110.4	-11	199.4	15	2.4	3.3	9.9	19		
Airborne Freight	232.0	24	450.4	24	4.4	320	7.0	128	1.9	0.6	8.5	19		
Federal Express (7)	1668.6	59	2952.3	45	41.0	-25	65.8	-28	2.5	5.2	11.6	15		
Gatx	174.3**	12	329.3	19	15.3	-2	32.7	31	8.8	10.0	20.7	12		
International Lease Finance (1)	87.1**	58	146.0	50	15.7	23	21.5	2	18.1	23.2	14.4	23		
PHH (8)	469.7	16	882.6	14	14.7	NM	28.0	NM	3.1	NM	14.4	13		
Ryder System	1288.5	0	2511.2	3	32.5	-43	58.7	87	2.5	4.4	10.8	14		
Subaru of America (2)	393.5	-5	820.7	-12	-27.0	NM	-39.3	NM	NM	NM	-46.6	NM		
Trinity Industries (9)	311.6**	54	627.5	68	13.8	171	25.0	120	4.4	2.5	17.1	20		
(d) TRUCKING & SHIPPING														
GROUP COMPOSITE	3342.6	25	6482.5	23	92.4	-30	293.8	28	2.8	4.9	17.4	11		
Alexander & Baldwin	152.4**	-27	489.2	35	21.5	-59	156.8	89	14.1	25.0	36.9	8		
American President	529.7**	14	1100.4	12	5.7	-61	11.5	-68	1.1	3.2	8.8	14		
Carolina Freight	157.4	8	306.9	5	2.1	NM	3.6	NM	1.3	NM	10.1	12		
Consolidated Freightways	1036.8	59	1762.9	39	8.4	-65	29.6	-27	0.8	3.6	13.1	11		
Hunt (J. B.) Transport Services	130.8	33	242.0	30	7.9	-11	12.9	-12	6.1	9.0	20.3	15		
Preston	156.6	5	309.0	7	2.1	-36	3.2	-15	1.4	2.2	5.9	12		
Roadway Services	614.2	29	1177.4	25	26.2	74	42.0	51	4.3	3.2	14.1	14		
Yellow Freight System	564.7	15	1094.6	15	18.5	32	34.2	46	3.3	2.9	18.9	10		
24 UTILITIES														
INDUSTRY COMPOSITE	30180.5	11	63046.8	7	2825.9	10	6179.2	-4	9.4	9.4	10.5	13		
(a) ELECTRIC														
GROUP COMPOSITE	26303.0	8	54588.7	6	2680.9	9	5694.1	-4	10.2	10.0	12.6	12		
Allegheny Power System	558.7	11	1148.8	3	47.2	11	114.3	0	8.4	8.4	13.2	10		
American Electric Power	1197.0	9	2460.1	6	145.3	7	321.2	-2	12.1	12.3	14.5	9		
Baltimore Gas & Electric	434.8	12	958.6	7	44.0	1	114.5	-8	10.1	11.1	13.7	10		
Boston Edison	282.7	10	579.0	4	1.1	-68	12.9	0	0.4	1.4	8.4	10		
Carolina Power & Light	558.0	16	1162.0	11	72.6	14	176.7	10	13.0	13.2	7.7	18		
Centerior Energy	577.3	19	1132.5	14	94.8	27	179.4	19	16.4	15.4	-2.6	NM		
Central & South West	597.0	1	1173.0	2	78.0	-11	158.0	-2	13.1	14.9	12.3	10		
Cincinnati Gas & Electric	304.2	6	714.5	1	47.0	1	110.0	-4	15.4	16.1	16.7	7		
CMS Energy	608.9	6	1531.4	3	68.7	17	180.4	25	11.3	10.2	17.5	8		
Commonwealth Edison	1309.8	9	2672.8	12	152.6	57	292.1	22	11.7	8.1	10.0	12		
Commonwealth Energy System	170.9	18	400.1	14	2.9	-28	23.6	7	1.7	2.8	11.4	10		
Consolidated Edison Co. of N. Y.	1218.3	11	2605.0	7	65.6	-22	218.2	-9	5.4	7.6	12.7	11		
Delmarva Power & Light	177.9	3	387.3	4	14.3	-5	38.1	-5	8.0	8.7	12.2	12		
Detroit Edison	758.4	5	1548.6	5	96.1	31	198.9	145	12.7	10.2	-7.0	NM		
Dominion Resources	850.8**	11	1776.6	13	66.0	-22	173.6	-23	7.8	11.0	11.8	11		
DPL	206.2	0	489.4	-4	31.9	-11	88.1	-8	15.5	17.3	13.4	10		
Duke Power	877.3	6	1740.5	0	127.3	33	254.5	10	14.5	11.5	12.0	12		
Florida Progress	523.9	9	996.9	3	49.5	8	91.2	-3	9.4	9.6	13.4	11		
FPL Group	1530.1	5	2895.9	3	122.2	14	203.9	-3	8.0	7.3	13.6	10		
General Public Utilities	688.0	5	1431.7	4	60.9	-4	150.5	-16	8.9	9.7	12.4	9		
Hawaiian Electric Industries	216.9	26	417.0	22	16.2	10	34.7	18	7.5	8.6	13.0	14		
Illinois Power	280.3	3	607.7	1	-1.2	NM	-349.7	NM	NM	9.4	-18.8	NM		
New England Electric System	371.9	5	799.5	6	24.6	NM	68.2	NM	6.6	NM	11.2	13		
New York State Electric & Gas	344.8	4	757.9	9	39.7	-18	107.4	-5	11.5	14.5	12.5	10		
Niagara Mohawk Power	710.6	1	1559.0	3	34.1	-27	105.4	-34	4.8	6.7	5.6	16		
Northeast Utilities	510.2	9	1069.8	6	50.0	-7	120.3	0	9.8	11.5	12.2	10		
Northern States Power	446.5	1	1007.1	1	36.9	-16	107.9	0	8.3	9.9	13.2	12		
Ohio Edison	512.6	-1	1059.3	2	85.4	14	187.0	10	16.7	14.5	8.1	16		
Pennsylvania Power & Light	532.8	2	1145.8	1	64.7	-5	166.0	-8	12.1	13.1	12.9	11		
Philadelphia Electric	777.5	11	1667.9	8	108.9	-1	252.3	-7	14.0	15.7	12.5	11		

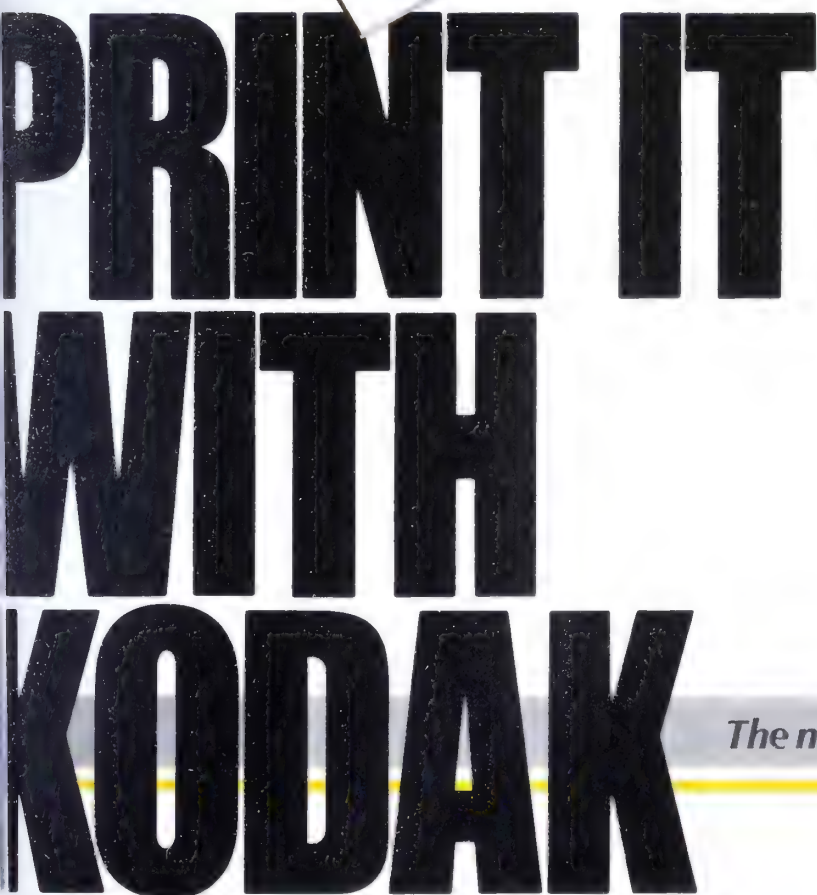
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CORPORATE SCOREBOARD

COMPANY	SALES				PROFITS							
	2ND QUARTER 1989 \$ MIL	CHANGE FROM 1988 %	6 MONTHS 1989 \$ MIL	CHANGE FROM 1988 %	2ND QUARTER 1989 \$ MIL	CHANGE FROM 1988 %	6 MONTHS 1989 \$ MIL	CHANGE FROM 1988 %	MARGINS		RETURN ON COMMON EQUITY 12 MONTHS ENDING 6-30	PRICE EARNINGS RATIO 7-21
									2ND QUARTER 1989 %	2ND QUARTER 1988 %		
Pinnacle West Capital	359.8	7	692.3	6	-3.2	NM	25.9	-71	NM	15.4	-2.9	NM
Portland General	176.0	3	397.1	4	3.7	-53	44.6	-5	2.1	4.6	10.5	12
Potomac Electric Power	318.7	6	621.5	3	38.8	-2	66.6	-7	12.2	13.1	15.9	10
Public Service Co. of Colorado	389.6	11	934.2	5	39.5	34	83.1	-11	10.1	8.4	11.6	12
Public Service Enterprise Group	1050.0	15	2348.8	11	120.9	5	282.6	3	11.5	12.6	13.5	10
Puget Sound Power & Light	186.7	7	461.0	17	25.6	5	76.1	4	13.7	14.0	13.0	10
Rochester Gas & Electric	184.6	13	429.5	5	3.3	-74	31.4	-28	1.8	7.7	10.4	11
San Diego Gas & Electric	504.3	2	1003.7	-1	43.2	8	79.2	-15	8.6	8.1	13.4	14
Scana	252.5	11	538.4	2	22.9	18	58.6	-3	9.1	8.5	13.2	12
SCEcorp	1572.1	16	3102.4	16	152.4	-4	281.3	-2	9.7	11.7	15.0	11
Southern	1882.1	6	3560.8	3	218.5	14	446.5	18	11.6	10.8	13.6	9
Southwestern Public Service (4)	203.3	8	388.0	1	29.5	40	50.6	9	14.5	11.2	16.3	12
Teco Energy	264.7	3	513.4	1	36.1	9	65.2	2	13.6	12.9	15.1	12
Union Electric	490.3	1	939.7	-1	65.6	-12	101.6	-17	13.4	15.4	13.1	11
Wisconsin Energy	334.1	-2	762.3	-2	36.9	-15	101.3	-14	11.0	12.8	13.2	12
(b) GAS & TRANSMISSION GROUP COMPOSITE	3877.4	38	8458.1	19	144.9	28	485.0	-6	3.7	4.0	6.1	53
Brooklyn Union Gas (3)	173.3	11	539.7	7	-3.8	NM	52.1	16	NM	NM	13.5	10
Eastern Enterprises	197.2	28	454.4	18	11.4	20	42.9	20	5.8	6.2	11.7	13
Nicor	266.2	14	955.4	6	15.2	32	69.8	3	5.7	4.9	16.6	10
Oneok (4)	143.4	7	384.4	6	8.4	28	36.9	18	5.9	4.9	4.6	24
Pacific Enterprises	1545.0	19	3406.0	22	55.0	10	124.0	3	3.6	3.9	11.9	13
Panhandle Eastern†	603.4	112	937.0	31	-5.0	NM	28.0	-74	NM	NM	-30.7	NM
Piedmont Natural Gas (2)	155.6	9	316.4	11	17.7	10	36.7	8	11.4	11.3	12.6	10
Sonat	640.7	132	1051.9	38	43.8	103	70.2	28	6.8	7.8	9.2	16
Wicor	152.7	5	412.9	-2	2.2	124	24.4	-1	1.4	0.7	13.9	9

ALPHABETICAL LIST OF COMPANIES

The number following each company name identifies the Scoreboard category under which it is listed

A	AAR 21b Abbott Laboratories 12d Acme Steel 16b Adia Services 21e Advanced Micro 9d Advo-System 21d Aetna Life & Casualty 17b Affiliated Pubs. 20b Ahmanson (H. F.) 17c Air Products & Chemicals 4 Airborne Freight 23c Alaska Air Group 23a Albany International 15d Alberto-Culver 6d Albertson's 10c Alco Standard 5 Alcoa 16a Alexander & Baldwin 23d Alexander's 8 Allegheny 17a Allegheny International 6b Allegheny Ludlum 16b Allegheny Power 24a Allen Group 9c Allied Products 15c Allied-Signal 5 Alltel 22b AM International 18b Amax 16a Ambase 17b Amdahl 18b Anastasia Hosiery 11b America West 23a American Brands 6e American Building 21e American Business 18a American Cyanamid 4 American Electric 24a American Express 17a American General 17b	American Greetings 14d American Home 12b American Maize 10b American Medical 12c American National 17b American Petrofina 11b American President 23d American Savings 17c American Stores 10c American TV 20a Ameritech 22b Ametek 9a Ametek 9a Ametek 9a Ames Department Stores 8 Ametek 9a Amoco 11b AMP 9d AMR 23a AMR 23a Analog Devices 9d Anchor Glass Container 7a Angelica 6a Anheuser-Busch 6c Anthony Industries 14d Apogee Enterprises 21a Apple Computer 18b Applied Materials 15c Arco Chemical 4 Aristech Chemical 4 Armco 16b Arvin Industries 2b Asarco 16c Ashland Oil 11b AST Research 18b AT&T 22a Atlantic Richfield 11b Avery International 15a Avon Products 6d AVX 9d	Baker Hughes 11c	B	Ball 7a Baltimore G&E 24a Banc One 3b Bandag 2b Bank of Boston 3a Bank of New England 3a Bank of New York 3a BankAmerica 3d Bankers Trust New York 3a Banta 21d Bard (C. R.) 12d Barnes Group 13a Barnett Banks 3c Bassett Furniture 6b Bausch & Lomb 12d Baxter International 12d Beckman Instruments 9c Becton, Dickinson 12c Bell Atlantic 22b BellSouth 22b Angelia 6a Belo (A. H.) 20b Bemis 7b Beneficial 17a Bergen Brunswig 12a Best Buy 6b Bethlehem Steel 16b Betz Laboratories 4 Beverly Enterprises 12c Bi 15a Big B 12a Bindley Western 12a Black & Decker 15b Blair 8 Block (H&R) 17a Block Drug 6d Blount 13b Boatmen's Bancshares 3b Bob Evans Farms 14a Boeing 1 Boise Cascade 19a Borden 10b	Boston Edison 24a Bowater 19b Braniff 23a Bristol-Myers 12d Brooklyn Union Gas 24b Brown Group 6a Brown-Forman 6c Browning-Ferris 21c Brunswick 14d Burlington Coat Factory 8 Burlington Holdings 15d Burlington Northern 23b Burlington Resources 11b Businessland 18a Butler Mfg. 21c	C	Cabot 4 Caesars World 14c CalFed 17c CalMat 13a Campbell Soup 10b Capital Cities/ABC 20a Cardinal Distribution 12a Carlisle 2c Carnival Cruise Lines 14d Carolina Freight 23d Carolina Power 24a Carpenter Tech. 16b Carson Pirie Scott 8 Carter Wallace Hale 8 Carter-Hawley 12b Casey's General 10c Castle & Cooke 10b Castle (A. M.) 21b Caterpillar 15c CBS 20a CBI 21e Centel 22b Centor Energy 24a Centex 13b	Central & South West 24a Champion Entls. 13b Champion Intl. 19b Chaparral Steel 16b Charming Shoppes 8 Chase Manhattan 3a Chemed 6d Chemical Banking 3a Chemical Waste 21c Chesapeake 19b Chevron 11b Child World 8 Chubb 17b Church & Dwight 6d Church's Fried 14a Cincinnati Bell 22b Cincinnati G&E 24a Cincinnati Milacron 15b Circle K 10c Circuit City Stores 6b Circus Circus 14c Citicorp 3a Citizens & Southern 3c Clark Equipment 15b Cleveland-Cliffs 16c CMI Group 8 CMS Energy 24a Coachmen Industries 14d Coca-Cola 6c Coca-Cola Bottling 6c Coca-Cola Enterprises 6c Colgate-Palmolive 6d Collins Foods 14a Combustion Eng. 21a Comdisco 18c Comerica 3b Commerce Clearing 20b Commercial Intertech 15c Commercial Metals 16b Commonwealth Ed. 24a Comm. Energy 24a	Commtron 14b Commins. Trans. 22a Community Psych. 12c Compaq Computer 18b Computer Associates 18c Computer Sciences 18c Comsat 22a ConAgra 10b Conner Peripherals 18b Consolidated Edison 24a Cons. Freightways 23d Consolidated Papers 19b Consolidated Rail 23b Consolidated Stores 8 Constar International 7a Contel 22b Continental Bank 3b Control Data 18b Cooper 12d Cooper Industries 9a Cooper Tire & Rubber 2c Coors (Adolph) 6c CoreStates Financial 3a Corning 15a Corroon & Black 17a Costco Wholesale 8 CPC International 10b Crane 15a Crawford 17a Cray Research 18b Crestar Financial 3c Crompton & Knowles 4 CrossLand Savings 17c Crown Central 11b Crown Cork & Seal 7a Crystal Brands 6a CSX 23b Culbro 6e Cummins Engine 2b CVN 8 Cyclops Industries 16b	Cyprus Minerals 16c	D	Dairy Mart 10c Dano 2b Danaohr 2b Dart Group 5 Data General 18b Dayton Hudson 8 De Sola 13a Dean Foods 10b Deere 15c Dell Computer 18b Delmarva Power 24a Delta Air Lines 23a Deluxe 18a Dennison Mfg. 18a Detroit Edison 24a Dexter 4 Di Giorgio 10a Diamond Shamrock 11b Diebold 18a Digital Equipment 18b Dillard 8 Dime Savings Bank 17c Disney (Walt) 14b Dollar General 8 Dominion Resources 24a Donaldson 2b Donnelley (R. R.) 21d Dover 15c Dow Chemical 4 Dow Jones 20b Downey Savings 17c DPL 24a Dresser Industries 11c Drug Emporium 12a DSC Communs. 22a Du Pont 4 Duke Power 24a	Dun & Bradstreet Duplex Products Dun-Fillauer Melb Dynatech 18b	E	E-Systems 9b Eagle-Picher Ind. Eastern Enterprises Eaton 2b Echlin 2b Ecolab
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CORPORATE SCOREBOARD

ALPHABETICAL LIST OF COMPANIES

Under following each company name identifies the Scoreboard category under which it is listed

and 17b stem 3b 3b incorp. 3d 3a Bancorp 3d 3c 3a 14d ess 24a 15a 0c 10c 4a McAran 4 per 16c om 6a 4 ries 5 b ainer 7b 2b ma 6c amics 1 tric 5 5 ument 9b 10b ors 2a ition 10c ic Uts. 24a al 9c up 9a ug 12a s 21b 4 ific 19a ucts 10b um 21b 10c H.) 19b 17c c E) 4 e & Rubber 2c s 15c 4 W.) 21b can Bank 17c can Mgmt. 4 10c Chemical 4 m 19b m 17c b s 13b	Harland (John H.) 18a Harley-Davidson 14d Harnischfeger 15c Harsco 15a Hartford Steam 17b Hartmarx 6a Hasbro 14d Hawaiian Electric 24a Hechinger 8 Heilig-Meyers 6b Heinz (H. J.) 10b Helene Curtis Industries 6d Hercules 4 Hershey Foods 10b Hewlett-Packard 18b Hexcel 15a Highland Superstores 6b Hillendbrand 15a Hills Department Stores 8 Hilton Hotels 14c Himont 4 Holiday 14c Holly 11b Home Depot 8 Home Shopping 8 HomeFed 17c Homestake Mining 16c HON Industries 18a Honeywell 9c Hormel (Geo. A.) 10b Houghton Mifflin 20b Hubbell 9a Hudson Foods 10b Huffy 14d Hughes Electronics 9b Hughes Supply 13a Humana 12c Hunt (J. 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C.) 8 Pennsylvania Power 24a Pennwalt 4 Pentair 15c Pep Boys 2b PepsiCo 6c Perkin-Elmer 9c Perry Drug Stores 12a Petrie Stores 8 Pfizer 12b Phelps Dodge 16c PHH 23c Philadelphia Electric 24a Philip Morris 6e Phillips Industries 15a Phillips Petroleum 11b Phillips-Van Heusen 6a Piedmont Natural 24b Pier 1 Imports 6b Pilgrim's Pride 10b Pinnacle West 24a Pioneer Hi-Bred 10b Pinney-Bowes 18a Pittston 11a Ply-Gem Industries 13a PNC Financial 3a Polaroid 14d Pope & Talbot 19a Portland General 24a Potlatch 7b Potomac Electric 24a PPG Industries 13a Precision Castparts 16c Premier International 5 Premier Industrial 21b Preston 23d Price 8 Prime Computer 18b Primerica 17a Progressive 17b Public Service Cos. 24a Public Service Ent. 24a Pugot Sound Power 24a Pulitzer Pub. 20b	Raytheon 9b Reebok International 6a Republic New York 3a Rexene 4 Reynolds & Reynolds 18a Reynolds Metals 16a Richfood Holdings 10a Rite Aid 12a Roadway Services 23d Robertson (H. H.) 15a Robins (A. H.) 12d Rochester Gas 24a Rochester Telephone 22b Rockwell International 5 Rohm & Haas 4 Rohr Industries 1 Rollins 21e Rorer Group 12b Rose's Stores 8 Ross Stores 8 RPM 13a Rubbermaid 15a Ruddick 10c Russell 6a Ryder System 23c Rykoft-Sexton 10a Ryland Group 13b Rymer Foods 10b	S Safeco 17b Safety-Kleen 21b Salem Carpet Mills 15d Salomon 17a San Diego G&E 24a Santa Fe Southern 23b Savin 18a Scano 24a SCC Corp 24a Schering-Plough 12b Schlumberger 11c Schulman (A.) 4 Schwab (Charles) 17a Scott Paper 19b Scripps (E. W.) 20b Seaboard 10b Seagate Technology 18b Sealed Air 15a Seamen's 17c Sears, Roebuck 8 Security Pacific 3d Service Merchandise 8 Shaw Industries 15d Shawmut National 3a Shearson Lehman 17a Sherwin-Williams 13a Shoney's 14a Showboat 14c Signet Banking 3c Silicon Graphics 18b Skyline 13b Smith (A. O.) 2b Smithfield Foods 10b SmithKline Beckman 12b Smucker (J. 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S. Bancorp 3d U. S. Healthcare 12c U. S. Home 13b U. S. Shoe 8 U. S. Surgical 12d	UAL 23a UJB Financial 3a Unifi 15d Union Camp 19b Union Carbide 4 Union Electric 24a Union Pacific 23b Union Texas 11b Unisys 18b United Stationers 21b United Technologies 1 United Telecomms. 22a Univar 21b Universal Foods 10b Universal Health 12c Upjohn 12b US West 22b USAR Group 23a USG 13a USLife 17b USLife 17b UST 6e USX 5	V Valcom 21e Valero Energy 11b Valley National 3d Valmont Industries 15a Valspar 13a Van Dorn 7a Varian Associates 9b VF 6a Village Super Market 10c Vista Chemical 4 Volt Inf. 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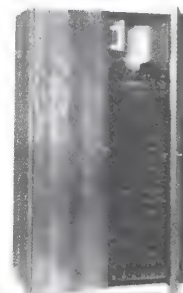
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IPOs ARE BACK—AND THEY'RE STILL A TREACHEROUS LOT



It's every investor's fantasy: buying shares of a small, obscure company just as it goes public—then selling out after the price has soared. Yet when it comes to initial public offerings (IPOs), reality has a nasty way of intruding. Throughout the 1980s, investors gambled on hundreds of new issues that were introduced amid much fanfare and then promptly fizzled. "Everyone looks at the IPO that went up 50 times and gets excited," says Richard Shuster, a principal at New York-based Value Equity Associates. "But that's the

exception, not the rule."

Ever since the October, 1987, stock market crash, investors have had few opportunities to win or lose: The IPO market was in the doldrums. But with Wall Street approaching new highs, IPOs—and the brokers who aggressively hawk them—are back. **NO ENTREE.** Things haven't reached the fever pitch of the old days, when such celebrated IPOs as Home Shopping Network, Metro Mobile CTS, and Chips & Technologies almost tripled their offering prices during the first year of trading. Despite a few stand-

outs (table), the most recent crop of IPOs has underperformed the market: For the first six months of 1989, Standard & Poor's New Issues Index was up 13.3%, while the S&P 500 rose 14.5% for the same period, according to Robert Natale, editor of S&P's *Emerging & Special Situations* newsletter.

Individual investors frequently don't have access to the best new issues. "You're getting the stock because the professionals didn't want it," says Shuster. "There's a limited supply of stock, and institutions are usually first in

line to receive the allocations."

Still, there's money to be made in IPOs if you read the prospectus carefully and have a list of operating principles in mind. Is the company in a new industry being inundated with new competitors? If so, it may not have enough resources to develop the technology and keep it ahead of the competition. Does the company rely on one or two customers for the bulk of its sales? Is the company's success dependent on one key manager whose contract is up for renewal in the near future?

Company	Price at Issue	Price 7/31/89
AMERICAN BODY ARMOR	4	6
CHEMDESIGN	13½	16½
CIRRUS LOGIC	10	12½
CLINICAL TECHNOLOGIES ASSOCIATES	5	12½
DUTY FREE INTERNATIONAL	20½	36¼
INTERNATIONAL BROADCAST SYSTEMS	7	9½
MICROTEL FRANCHISE & DEVELOPMENT	6	8½
NETWORK GENERAL	8	15½
SEVENSON ENVIRONMENTAL SERVICES	16½	25
SYNETIC INC.	10½	13½

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en want to attend one e company's road -presentations put on ylists and investors by derwriter—so that you questions to manage-rectly.

CLEAR. Check the "use-eds" section in the tus and find out how any is going to use ey, says Hartley Bern-partner at New York-law firm Brandeis in, which represents ompanies going public nderwriters. "If the y is spending 99% of ceeds from the offer-pay off debts, you ey're out of operating' And if some of the from the offering is to buy out existing lders, that's a signal company is unloading lems onto you. Finally, are the business' stock offered at a discount

to similar companies in the same industry.

Most experts agree that you should steer clear of closed-end funds, which have been extremely weak performers this year, and avoid thinly traded stocks listed only on pink sheets. These listings are available only to brokers, making the stocks difficult for investors to follow on a day-to-day basis. You can find out which companies are due to go public by checking *Investor's Daily*—it lists debt and equity issues that have registered with the SEC.

Shuster suggests investing in "fallen angel" IPOs. These stocks typically fall for a few months after the offering because "everyone's forgotten about them," but still have intrinsic value. Harley-Davidson

went public in July, 1986, at 11, dropped into the single digits by August, rebounded, and is now trading at 28¾. McCaw Cellular Communications went public in August, 1987, at 21¾, dropped into the low teens three months later, but is now trading at 38.

Some industries are producing IPOs where the only place

the stocks seem to go is up. Environmental services companies have had the best after-market performance during the first half of the year, according to Norman Fosback, editor of *New Issues*, based in Fort Lauderdale, Fla. Telecommunications equipment and retail IPOs have also done extremely well.

If the market keeps rising, underwriters will try to take more companies public. And many brokers will try to steer you into an IPO instead of an established stock: They make roughly 55¢ a share on new issues—about 10 times their usual commission. That's all the more reason to be skeptical the next time a broker calls with a tip on a hot new issue.
Laura Zinn

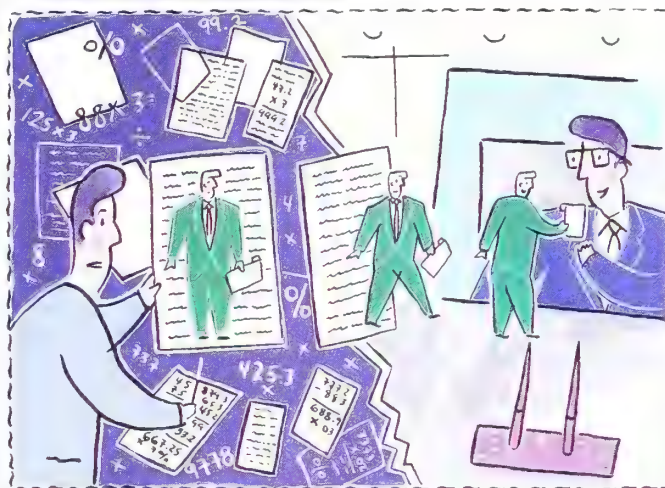
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Tampa-based Action Staffing negotiates with a pool of 11,000 employees. Twenty-two of them work at Magnus Manufacturing, a precision sheet-metal shop in Islip,

N.Y. "It's costing us about what we used to pay for only major medical, and their wraparound program adds vision and prescription coverage," says bookkeeper Cynthia Williamson. The savings allowed Magnus to keep from eliminating its dental plan.

The industry is young, and there are no real standardized ways of billing. Leasing fees

may consist of cost (taxes, insurance premiums, and so on) plus a markup based on a percentage of gross wages. Other companies charge cost plus a fixed fee per employee—from \$5 to \$25 per week.

Leasing employees doesn't mean you're free of legal responsibilities as an employer, however. If an employee sues for discrimination or wrongful discharge, you could be liable as a co-employer.

WORST CASE. Be sure your leasing firm is on solid financial ground. If they go bankrupt, and "there are unpaid state or federal taxes, or employee benefits, it is highly probable that the client would be responsible for those benefits and taxes," says Lee Paterson, senior labor attorney at Los Angeles law firm Richards, Watson & Gershon.

The National Staff Leasing Assn. (818 788-2094) can supply names of firms in your area. Its members provide quarterly verification to show that taxes and wages are paid in a timely manner. That's important—because leasing should help you attract and retain valuable employees, not drive them away from you.
Suzanne Woolley

Smart Money

A GOOD BROKER IS ALSO A GOOD INVESTMENT

After the October, 1987, stock market crash, brokerage stocks became the black sheep of Wall Street. But now the shares of firms that sell stocks and bonds to investors are back in favor. "I'm recommending all of the brokerage stocks right now," says Brenda McCoy of PaineWebber.

The key to the revival has been the renewed interest by individual investors in the stock market. In June, daily average volume on the New York Stock Exchange was 180 million shares—the third-highest month since the crash—followed by a robust 160 million shares in July. That has helped raise the firms' stock prices since January (table).

Among the major brokerages, analysts say Merrill Lynch's shares are the most undervalued. Considering

recommends Shearson Lehman Hutton, which had big problems last year but may be poised for a comeback. Eckenfelder points to the improvement of Shearson's Boston Co. unit, a money-management firm. The subsidiary got into trouble early this year when it overstated its 1988 earnings by \$30 million. Now, Eckenfelder says, "The Boston Co. has turned the corner and will be back on track by the fourth quarter."

PUREST PLAYS. St. Louis-based A. G. Edwards & Sons is the analysts' top choice among the regional firms. Its earnings are steadier than those of cyclical investment banking firms. Deans says Edwards' second-quarter return on equity was 19%, far better than the industry average of 13%.

Discount brokerage firms offer the purest plays. The small investor accounts for most of the discounters' business; large firms rely mainly on trading and investment banking revenue sources. Michael Blumstein of First Boston likes Charles Schwab, the biggest discounter, and Quick & Reilly, the second-largest. Schwab averaged 11,900 daily transactions in the second quarter, compared with 10,400 a year ago. In its first quarter ended May 26, Quick & Reilly earned 31¢ a share, up from 28¢ in the same period last year.

With their runup, do the brokerage stocks still have a kick left in them? Analysts are optimistic, so long as the market keeps rising. If the market starts to weaken, however, brokerage stocks could be among the first casualties. *Jon Friedman*

A RALLY FOR BROKERAGE STOCKS

	Share price Jan. 2, 1989	Share price July 31, 1989
MERRILL LYNCH	24	\$34 ⁷ / ₈
SHEARSON LEHMAN HUTTON	18 ¹ / ₈	23 ¹ / ₈
PAINEWEBBER	16 ¹ / ₈	23 ¹ / ₈
A.G. EDWARDS & SONS	19 ¹ / ₈	27 ¹ / ₄
CHARLES SCHWAB	6 ³ / ₄	16 ¹ / ₂
QUICK & REILLY	10 ⁷ / ₈	16 ¹ / ₂

DATA: BRIDGE INFORMATION SYSTEMS INC.

Merrill's retail-brokerage strength, its stock should be trading in the 40s, says Alison Deans of Kidder Peabody; instead, it's in the mid-30s. In July, Merrill's customer assets under management rose \$7 billion to a record \$304 billion—by far the most of any firm. Citing increased investor activity, Merrill had second-quarter earnings of 62¢, up from 47¢ a year ago.

Lawrence Eckenfelder of Prudential-Bache Securities



What's In

THESE DAYS, SOME LIKE IT DRY

What's wet and dry at the same time? Dry beer, naturally, the biggest brew to come along since light beer. The stuff isn't really new: In the 1950s, regional beers such as New York's Rheingold and St. Louis' Stag called themselves "dry." But most folks learned of it last summer, after a wave of Japanese imports hit U.S. shores. Their success encouraged a host of American brewers to give dry a try.

Dry beer is brewed twice as long as usual, so that more sugar is converted into alcohol. As a result, the brew becomes lower in calories: Michelob Dry, for example, has 133 calories vs. about 160 for regular Michelob. Dryer also means stronger; some of the Japanese beers contain 5% alcohol by weight. And while most of the American versions get watered down, many still carry an extra kick: Lone Star Dry from Texas has an alcohol content of 3.9%, compared with 3.6% for regular Lone Star.

TASTE TEST. Even when it isn't that much higher in alcohol, dry beer often tastes more potent. That's due to the flavor imparted by the extra-long brewing process: crisper,

less sweet. The main with dry beer, though, absence of a heavy aftertaste.

Which is where the controversy starts. Some people to keep on tasting them after they have swallowed. Beer preference is a very personal thing, and much strong "dry" sales could reflect one-time experiments. The reviews are decidedly mixed: Some folks do clean and refreshing. Others call it dull and watery. Then there's a group that thinks a brand's dry tastes just like its regular counterpart.

Fans of European brews will like Holsten from Germany. Those who prefer the lighter Japanese style will go for Kirin. If you like beer with a tang, there's Asahi, an Japanese import. And for a real jolt, try Colt 45 (a dry malt liquor).

If none of these new is to your liking, don't feel of touch. In Japan, where revival started, dry-beers already have gone flat. An indefatigable brewer is working on another new sensation. Not much is about it yet, but they Super Yeast. *Troy*

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Books

CURLING UP WITH A GOOD BOOKSTORE

A customer recently asked the Tattered Cover in Denver just to browse among the 100,000 titles in the store, only 15 minutes from the airport. Clerks at the Tattered Cover (2955 E. First Ave.) have been known to hand pencil and paper to customers to copy information from books so they won't have to buy them.

Some customers arrange to change planes in Denver just to browse among the 100,000 titles in the store, only 15 minutes from the airport. Clerks at the Tattered Cover (2955 E. First Ave.) have been known to hand pencil and paper to customers to copy information from books so they won't have to buy them.

STUFFED CHAIRS. If you think all bookstores today are mall outlets with only best-sellers, you're in for a pleasant surprise. America still stocks plenty of new and used bookstores run by clerks with the minds of reference librarians, where shabby overstuffed chairs invite you to read to your heart's content.

Take John K. King Books in Detroit (901 W. Lafayette Blvd.), a renovated glove factory whose dingy five stories contain 1 million new and used books—from auto history to 14th century manuscripts. Ford Chairman Donald Petersen often browses among the stacks. So does King's resident mutt, Sparky. More elegant is Books & Books in Coral Gables, Fla. (296 Aragon Ave.), just outside Miami. B&B stocks every imaginable subject but specializes in architecture and art. Customers can call 305 444-POEM for a poem



SINCE THE 1920s, NEW YORK'S GOTHAM BOOK MART HAS DRAWN WRITERS AND THEATER BUFFS

and news of upcoming readings and other events.

In St. Paul, Minn., local celebrity author Garrison Keillor reads his work at the Hungry Mind Bookstore, 1648 Grand Ave. The store specializes in poetry, small-press literature, women's studies, and Central American politics. Cajun chef Paul Prudhomme cooks for fans at Stuart Brent Books in Chicago (670 N. Michigan Ave.).

Not all authors are guests. One sharp-eyed customer spotted playwright Arthur Miller browsing through the bookstalls at Whitlock Farm Booksellers, situated on a 40-acre turkey farm in Bethany, Conn. Whitlock has two barns of used books, and on nice days it moves stalls outside

among the flowering shrubs.

In New York, the Gotham Book Mart at 41 W. 47th St. has been a midtown institution since the 1920s. Although founder Frances Steloff died last April at the age of 101, the store retains the charm that has kept the regular clientele of writers, actors, and playwrights coming back for years. Browse through Gotham's shelves, stocked with hard-to-find poetry, fiction, and theater books. The sign over the doorway reads: "Wise Men Fish Here."

THOUGHT FOR FOOD. Beat Generation poet Lawrence Ferlinghetti runs a bookstore, City Lights, in San Francisco's North Beach (261 Columbus Ave.). It's well stocked with Beat literature.

City Desk Books in Los Angeles (4763 York Blvd.) specializes in books by L.A. authors. It celebrated Raymond Chandler's 100th birthday with a party and screening of *The Big Sleep*. Trails West in Louisville, Colo., just north of Denver (1032 S. Boulder Rd.), and Zion Books in Salt Lake City (254 S. Main St.) both specialize in Western history.

For Southern literature ranging from gothic romances to the

history of the Civil War, Atlanta's Oxford Book Store (2345 Peachtree Rd. N.E.) And if you crave more thought for food, you can use your book over cappuccino or a hearty sandwich at Oxford's adjoining restaurant, Cup and Chaucer.

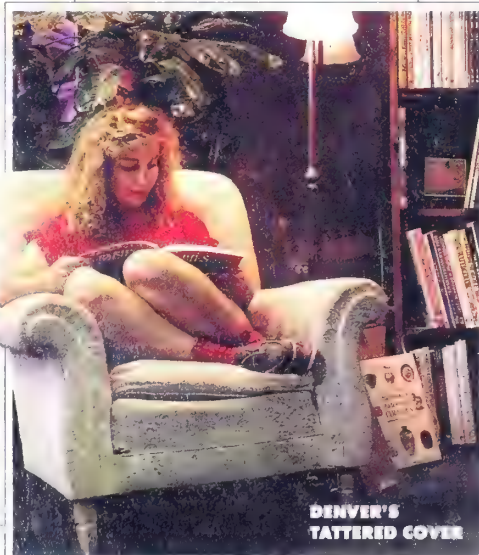
Sandra Atchison



Worth Noting

■ **TIME AND TIDE.** For boat owners, the Tidewatch is a digital watch with a bar chart that indicates the height of tides, currently and at any time in the year ahead. About \$70, at marine stores or call 201 832-9103.

■ **SKI TRAIN.** After two years and \$6 million worth of repairs, Amtrak's overnight train from Washington, D.C., to Montreal is back on track. With early-evening stops in Philadelphia and New York, it can save embound skiers an eight-hour ride by car or bus to reach towns close to Stratton, and other area



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gives the starting page for a story or feature with a significant reference to a company. Most stories are indexed under their own names. Stories listed only in tables are not included.

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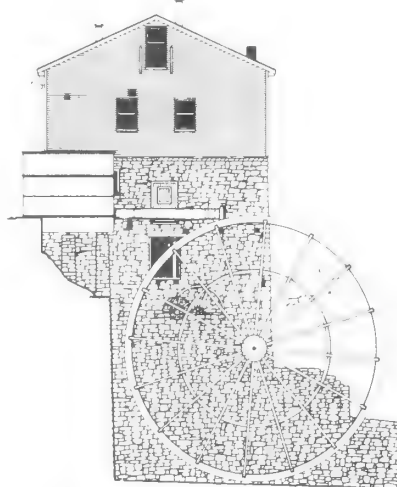
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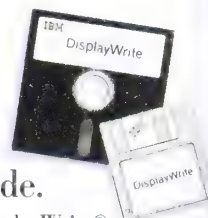


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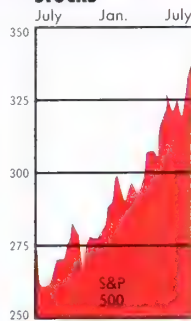
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Investment Figures of the Week

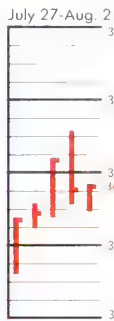
TARY

ied again this week, by the prospect of still-lower rates. The Dow Industrials reached a post- on July 31. The fixed-market surged as the July the nation's purchasing showed a weakening The 30-year Treasury at was yielding only 7.8%, n 8.1% the previous 7. The slowing economy, er hand, sent the dollar

STOCKS

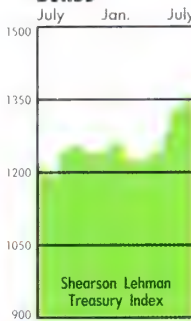


52-week change
+26.1%

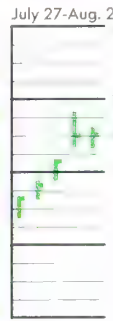


1-week change
+1.9%

BONDS

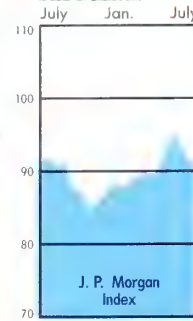


52-week change
+12.5%



1-week change
+2.8%

THE DOLLAR



52-week change
-0.3%



1-week change
-1.3%

MARKET ANALYSIS

STOCKS

	Latest	% change Week	% change 52-week
INDUSTRIALS	2657.4	1.7	24.5
COMPANIES (Russell 1000)	181.6	1.9	25.5
COMPANIES (Russell 2000)	174.4	0.6	15.7
COMPANIES (Russell 3000)	194.3	1.8	24.7

STOCKS

	Latest	% change Week	% change (local currency) 52-week
(FINANCIAL TIMES 100)	2307.8	1.9	23.7
(NIKKEI INDEX)	34,899.3	1.1	23.1
(TSE COMPOSITE)	3980.5	1.1	18.7

FUNDAMENTALS

	Latest	Week ago	Year ago
90-DAY TREASURY BILL YIELD	7.9%	8.3%	7.1%
30-YEAR TREASURY BOND YIELD	7.8%	8.1%	9.1%
S&P 500 DIVIDEND YIELD	3.1%	3.3%	3.6%
S&P 500 PRICE/EARNINGS RATIO	13.4	13.2	12.4

TECHNICAL INDICATORS

	Latest	Week ago	Reading
S&P 500 26-week moving average	310.4	308.6	Positive
Stocks above 26-week moving average	66.0%	64.3%	Neutral
Speculative sentiment: Put/call ratio	0.21	0.25	Negative
Insider sentiment: Vickers sell/buy ratio	2.15	2.16	Neutral

INDUSTRY GROUPS

WEEK LEADERS

	% change 4-week	% change 52-week
TRANSPORTATION SERVICES	17.8	19.4
ENGINEERING FIRMS	17.5	35.6
DRINKS	16.0	68.6
	15.5	38.7
ELECTRONICS	14.6	20.3

WEEK LAGGARDS

	% change 4-week	% change 52-week
DUTY TRUCKS AND PARTS	0.6	8.7
SOFTWARE AND SERVICES	0.6	13.8
TIME	0.7	-3.9
SYSTEMS	0.7	-10.5
TOOLS	1.4	-17.2

Strongest stock in group

	% change 4-week	% change 52-week	Price
FEDERAL EXPRESS	18.7	22.3	51½
PAINWEBBER GROUP	23.8	37.9	22¾
COCA-COLA	17.6	73.9	66¾
MARION LABORATORIES	47.4	84.5	35¾
HONEYWELL	18.7	35.9	87½

Weakest stock in group

	% change 4-week	% change 52-week	Price
PACCAR	-7.8	21.3	45½
SHARED MEDICAL SYSTEMS	-9.6	-13.5	15¼
BRUNSWICK	-6.5	-26.6	16¼
WANG LABORATORIES	-18.6	-40.0	6
CROSS & TRECKER	-3.1	-31.6	11½

MUTUAL FUNDS

total return	%	LAGGARDS	Four-week total return	%
ENVIRONMENTAL AWARENESS	13.1	FIDELITY SELECT SOFTWARE & COMPUTER	-2.7	
CENTURY GIFTTRUST INVESTORS	12.8	STRATEGIC SILVER	-2.6	
MULTIPLE OPPORTUNITIES	12.5	STRATEGIC GOLD/MINERALS	-1.2	
total return	%	52-week total return	%	
SMALL CAPITALIZATION PORTFOLIO	58.2	STRATEGIC GOLD/MINERALS	-27.2	
Y SELECT BROADCAST & MEDIA	55.5	STRATEGIC SILVER	-21.1	
ARE GROUP TREND	53.5	VAN ECK GOLD/RESOURCES	-14.8	

S&P 500

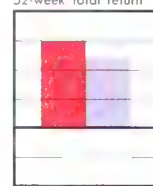
4-week total return



MORNINGSTAR INC.

Average fund

52-week total return



RELATIVE PORTFOLIOS

Accounts	Foreign stocks	U.S. stocks	Treasury bonds	Money market fund	Gold
at the present					
\$10,000					
one year					
each portfolio					
es indicate					
total returns	\$13,269	\$12,970	\$12,872	\$10,705	\$8,448
	+4.81%	+2.96%	+3.57%	+0.16%	-0.61%

this page are as of market close Wednesday, Aug. 2, 1989, unless otherwise indicated. ups include S&P 500 companies only; performance and share prices are as of market close

Aug. 1. Mutual fund returns are as of July 28. Relative portfolios are valued as of Aug. 1. A more detailed explanation of this page is available on request.

MAKING JAPAN'S MAGIC WORK IN THE U.S.

In the early 1980s, when U. S. carmakers called for their Japanese counterparts to produce cars in the United States, they argued that it was only fair that the Japanese should build where they sold, just as General Motors and Ford did in Europe. But they had another motive as well: They assumed that the move would wipe out much of Japan's competitive edge. They were convinced that Japan's unique culture was responsible for its economic success. If Japanese auto makers had to leave behind their homogeneous, well-educated, compliant work force, and employ unruly, less dedicated, unionized Americans, the productivity of their workers and the quality of their cars would plummet. And so would their sales.

That's not quite the way it worked out. Instead, Japanese transplants have taken firm root in American soil and are expanding rapidly. Eight Japanese carmakers are now operating assembly plants in North America, either independently or with U. S. partners. Output at these plants is expected to hit 1.5 million cars this year and 2.1 million by 1991.

Japanese management, it turned out, was as exportable as its products. Its guiding principles—granting employees broad authority to organize their tasks and insisting on high quality from workers and suppliers—are now proving themselves in towns such as Marysville, Ohio, where Honda is building Civics and Accords with quality levels nearly equal to those from Japan. And in Fremont, Calif., Toyota managers in a joint venture with General Motors have turned a former GM plant with a history of labor strife and shoddy quality into a showplace of quality and productivity. Given an opportunity to contribute, the plant's American workers—about 50% black and Hispanic—have proved their worth in ways that flowed through to the bottom line.

Fortunately, there are signs that American auto makers are beginning to learn from the success of their Japanese rivals in the U. S. (page 74). Progress is slow, and much more has to be done in such fields as labor and supplier relations, technology management, and innovation. But the most important lesson has clearly been absorbed: Using American workers, it can happen here.

GIVE THE IRS A TOUGH AUDITOR

To perform its mission effectively, the Internal Revenue Service—like Caesar's wife—must be above suspicion. Thus, recent testimony before the House government operations subcommittee about apparent attempts to cover up wrongdoing at the agency is particularly troubling. According to witnesses, one IRS official investigated his friends' business rival, others misused government funds and property, and at least one accepted gifts from a delinquent

taxpayer. Higher-ups were reportedly more concerned punishing IRS employees who blew the whistle on their leagues than with cleaning house.

Public faith in the competence of the IRS has already shaken by widespread reports of misinformation provided taxpayers seeking advice from the agency. If people lose confidence in the integrity of the IRS, the entire system of voluntary tax compliance will be at risk. That's why it's important both to protect whistle-blowers and to ensure the agency acts swiftly to correct future misconduct.

Some members of Congress want to assure IRS rectitude by gaining broader access to its files. That way, they contend, they could oversee the agency more knowledgeably. But such a cure would be worse than the disease, since it would raise fears among taxpayers that the confidentiality of tax returns might be breached for political purposes. A better idea is to put the Treasury Dept.'s inspector general rather than the IRS commissioner, in charge of internal investigations of employees. Knowing that this vital task is in the hands of an independent authority would give Congress, the public, and IRS employees themselves confidence that reported misdeeds would be handled speedily and impartially.

KEEP YOUR MITTS OFF SOCIAL SECURITY TAXES

The President says no new taxes. The Gramm-Rudman Act says the deficit must be cut to \$100 billion in 1990. But both Congress and the Administration are still loath either to cut spending or raise taxes.

That leaves gimmicks as the only way to make the budget work. The worst idea to come along in a while has already been written into a tax bill being drafted by the House Ways & Means Committee. By including earnings put into 401(k) accounts and some other retirement plans in the Social Security wage base, the provision would increase the amount of wages subject to federal payroll taxes. That would produce a short-lived windfall for the Treasury. Because of the way Social Security benefits are computed, however, the measure would also raise benefits for everyone retiring after 1990. Over the next 75 years, the arrangement could cost the Treasury an average of \$2 billion a year.

A tax increase that begins costing the government money within five years is a terrible idea on its face. But this idea is even worse, because it adds to the Social Security liability. Currently, the retirement system is generating huge surpluses. "Ostensibly, the money is put aside to finance the retirement of the baby boom generation. In fact, it's largely 'borrowed' by the Treasury and spent as fast as it comes in. The Ways & Means plan would create a future liability for Social Security without even pretending to put the money aside to pay for the new benefits.

Since the Bush Administration is pledged to oppose new taxes, this is a tax plan that George Bush should feel free to disavow. And Congress, which has grown increasingly qualms about denouncing. And Congress, which has grown increasingly burned every time it has touched Social Security taxes in recent years, should have sense enough to stay far away from this one.



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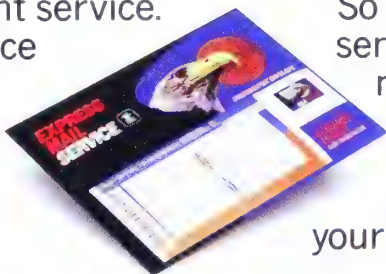
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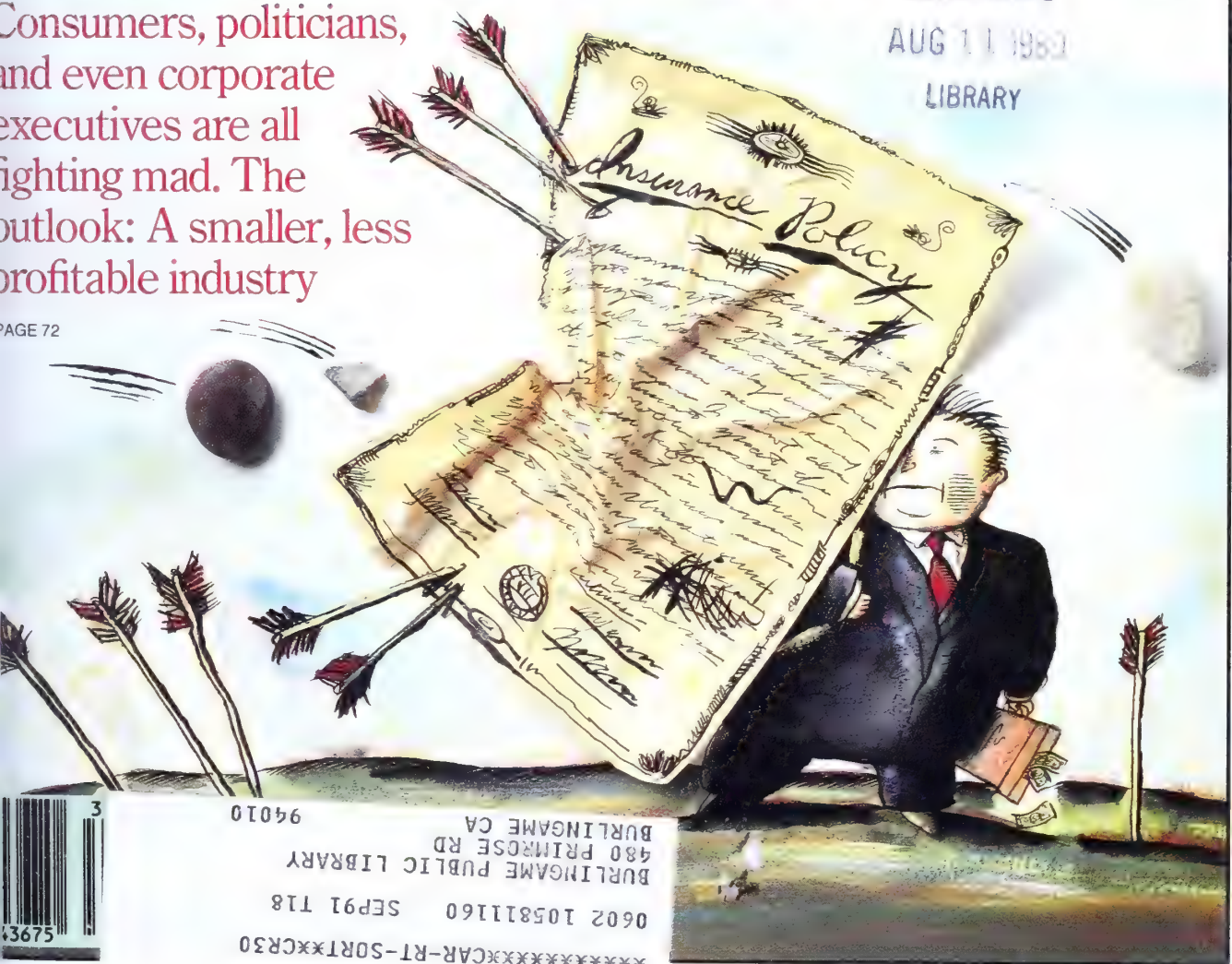


INSURANCE

AN INDUSTRY UNDER SIEGE

Consumers, politicians, and even corporate executives are all fighting mad. The outlook: A smaller, less profitable industry

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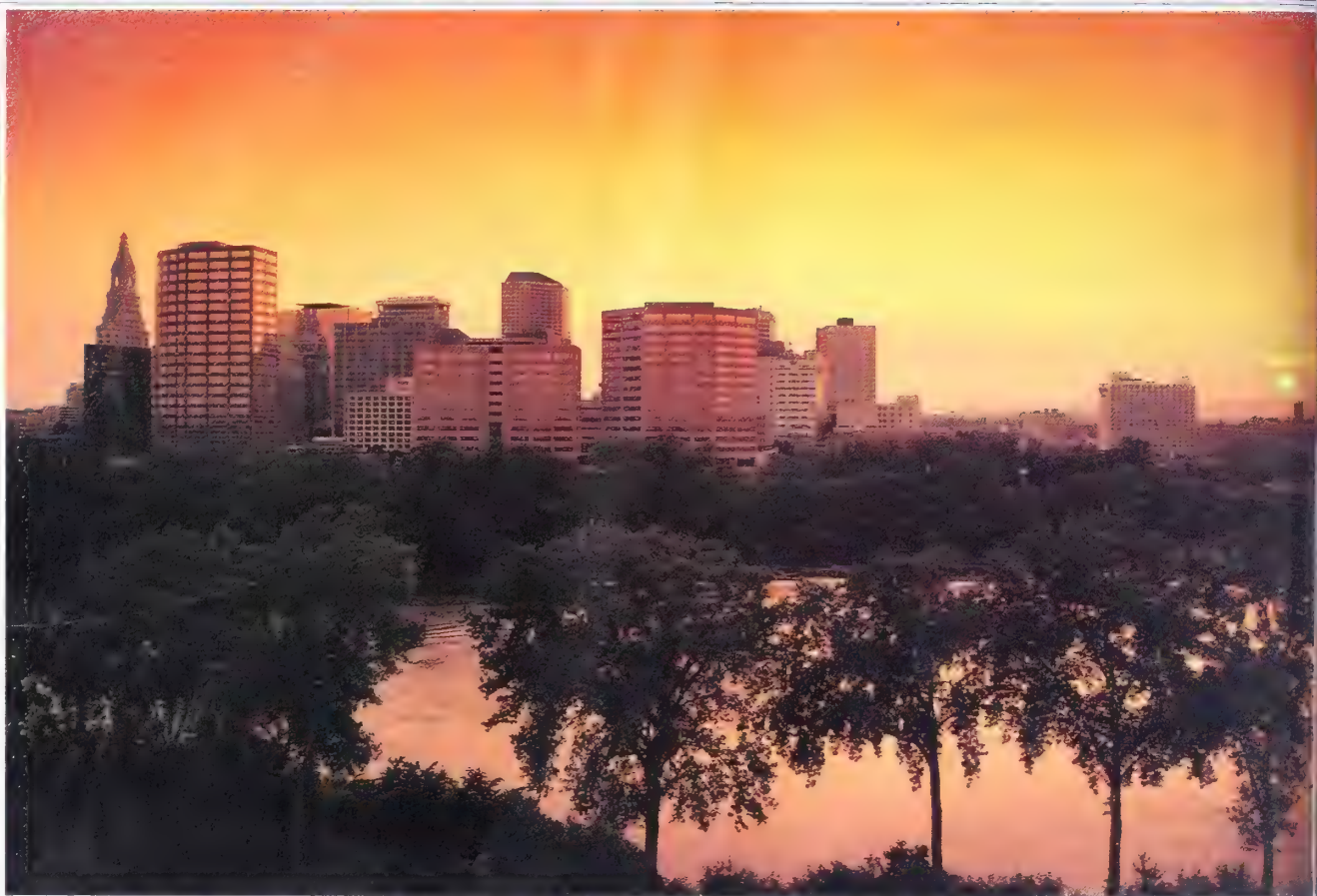


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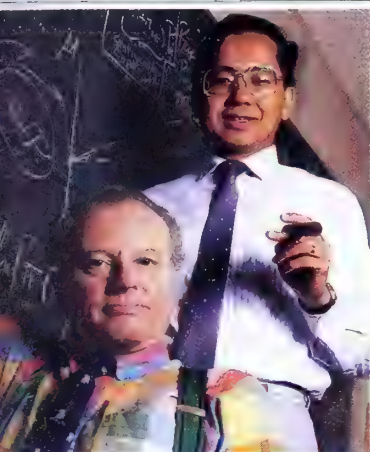
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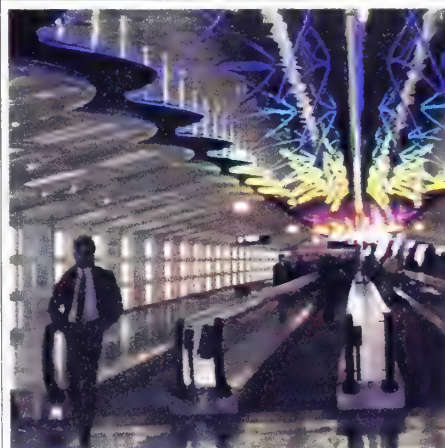
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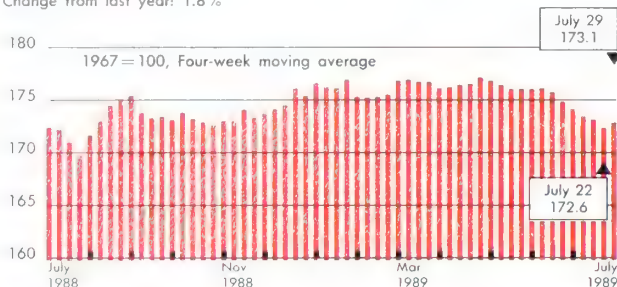
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BusinessWeek Index

PRODUCTION

Change from last week: 0.3%
Change from last year: 1.8%

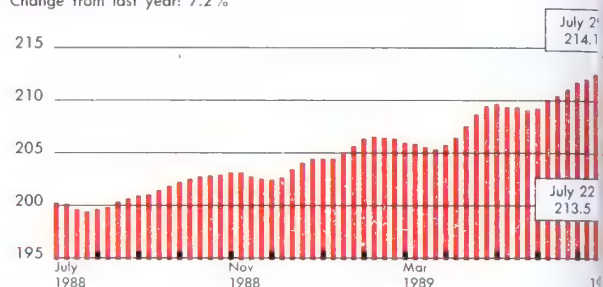


The production index increased for the week ended July 29. Seasonally adjusted output of autos, electric power, coal, rail-freight traffic, lumber, crude-oil refining, and steel all rose. Paperboard production was down slightly, and truck and paper output levels were unchanged for the week. Before calculation of the four-week moving average, the index jumped to 175.3 from 171.3 in the previous week. For July, the index slumped to 173.1 from June's level of 174.4.

BW production index copyright 1989 by McGraw-Hill Inc

LEADING

Change from last week: 0.3%
Change from last year: 7.2%



The leading index increased for the week ended July 29. Higher stock price, lower bond yields, a drop in the number of business failures, and a faster pace of real estate loans contributed to the advance. That was offset partially by a slowdown in the growth of materials prices and slower growth in M2. Before calculation of the four-week moving average, the index dropped to 214.8 from 215.0 in the prior week. In July, the index rose to 214.0 from 211.8 in June.

Leading index copyright 1989 by Center for International Business Cycle Research

PRODUCTION INDICATORS

	Latest week	Week ago	% Change year ago
STEEL (8/5) thous. of net tons	1,863	1,856 #	-2.0
AUTOS (8/5) units	86,988	84,312r #	5.0
TRUCKS (8/5) units	71,424	63,683r #	13.2
ELECTRIC POWER (8/5) millions of kilowatt-hours	62,586	63,206 #	-4.3
CRUDE-OIL REFINING (8/5) thous. of bbl./day	13,427	13,915r #	-2.8
COAL (7/29) thous. of net tons	18,311 #	16,857	-4.9
PAPERBOARD (7/29) thous. of tons	748.7 #	757.6r	4.2
PAPER (7/29) thous. of tons	738.0 #	716.0r	1.8
LUMBER (7/29) millions of ft.	522.8 #	506.5	16.3
RAIL FREIGHT (7/29) billions of ton-miles	19.0 #	18.2	-2.6

Sources: American Iron & Steel Inst., Ward's Automotive Reports, Edison Electric Inst., American Petroleum Inst., Energy Dept., American Paper Inst., WWPA¹, SFPA², Association of American Railroads.

FOREIGN EXCHANGE

	Latest week	Week ago	Year ago
JAPANESE YEN (8/9)	139	136	133
GERMAN MARK (8/9)	1.90	1.85	1.88
BRITISH POUND (8/9)	1.62	1.66	1.71
FRENCH FRANC (8/9)	6.43	6.27	6.39
CANADIAN DOLLAR (8/9)	1.17	1.18	1.22
SWISS FRANC (8/9)	1.64	1.59	1.58
MEXICAN PESO (8/9) ³	2,543	2,536	2,300

Sources: Major New York banks. Currencies expressed in units per U. S. dollar, except for British pound expressed in dollars.

PRICES

	Latest week	Week ago	% Change year ago
GOLD (8/9) \$/troy oz.	364.600	369.750	-14.7
STEEL SCRAP (8/8) # 1 heavy, \$/ton	109.00	109.00	-11.0
FOODSTUFFS (8/7) index, 1967=100	221.6	219.5	-8.6
COPPER (8/5) ¢/lb.	118.5	119.1	22.2
ALUMINUM (8/5) ¢/lb.	82.8	81.3	-32.4
WHEAT (8/5) # 2 hard, \$/bu.	4.17	4.20	11.5
COTTON (8/5) strict low middling 1-1/16 in., ¢/lb.	70.08	68.51	16.9

Sources: London Wed. final setting, Chicago mkt., Commodity Research Bureau, Metals Week, Kansas City mkt., Memphis mkt.

Raw data in the production indicators are seasonally adjusted in computing the BW index (chart); other components (estimated and not listed) include machinery and defense equipment.
1 = Western Wood Products Assn. 2 = Southern Forest Products Assn. 3 = Free market value NA = Not available r = revised NM = Not meaningful

LEADING INDICATORS

	Latest week	Week ago	% Change year ago
STOCK PRICES (8/4) S&P 500	344.57	337.95	
CORPORATE BOND YIELD, Aaa (8/4)	8.81%	8.91%	
INDUSTRIAL MATERIALS PRICES (8/4)	103.4	102.9	
BUSINESS FAILURES (7/28)	207	237	
REAL ESTATE LOANS (7/26) billions	\$334.1	\$332.8	
MONEY SUPPLY, M2 (7/24) billions	\$3,111.4	\$3,114.1r	
INITIAL CLAIMS, UNEMPLOYMENT (7/22) thous.	342	354	

Sources: Standard & Poor's, Moody's, Journal of Commerce (index: 1980=100), CIBCR (failures of large companies), Federal Reserve Board, Labor Dept. CIBCR seasonally adjusts data on business failures and real estate loans.

MONTHLY ECONOMIC INDICATORS

	Latest month	Month ago	% Change year ago
BUSINESS WEEK PRODUCTION INDEX (July)	173.1	174.4r	
BUSINESS WEEK LEADING INDEX (July)	214.1	211.8r	
EMPLOYMENT, CIVILIAN, MILLIONS, (July)	117.5	117.5	
UNEMPLOYMENT RATE, CIVILIAN (July)	5.2%	5.3%	

Sources: BW, CIBCR, BLS

MONETARY INDICATORS

	Latest week	Week ago	% Change year ago
MONEY SUPPLY, M1 (7/24)	\$776.2	\$777.5r	
BANKS' BUSINESS LOANS (7/26)	319.2	315.6r	
FREE RESERVES (7/26)	456r	416r	
NONFINANCIAL COMMERCIAL PAPER (7/24)	124.5	125.6r	

Sources: Federal Reserve Board (in billions, except for free reserves, which are expressed in a two-week period in millions).

MONEY MARKET RATES

	Latest week	Week ago	% Change year ago
FEDERAL FUNDS (8/8)	8.95%	8.95%	7.2
PRIME (8/9)	10.50	10.50	9.2
COMMERCIAL PAPER 3-MONTH (8/8)	8.51	8.24	8.2
CERTIFICATES OF DEPOSIT 3-MONTH (8/9)	8.60	8.30	8.2
EURODOLLAR 3-MONTH (8/2)	8.48	8.84	8.2

Sources: Federal Reserve Board, First Boston

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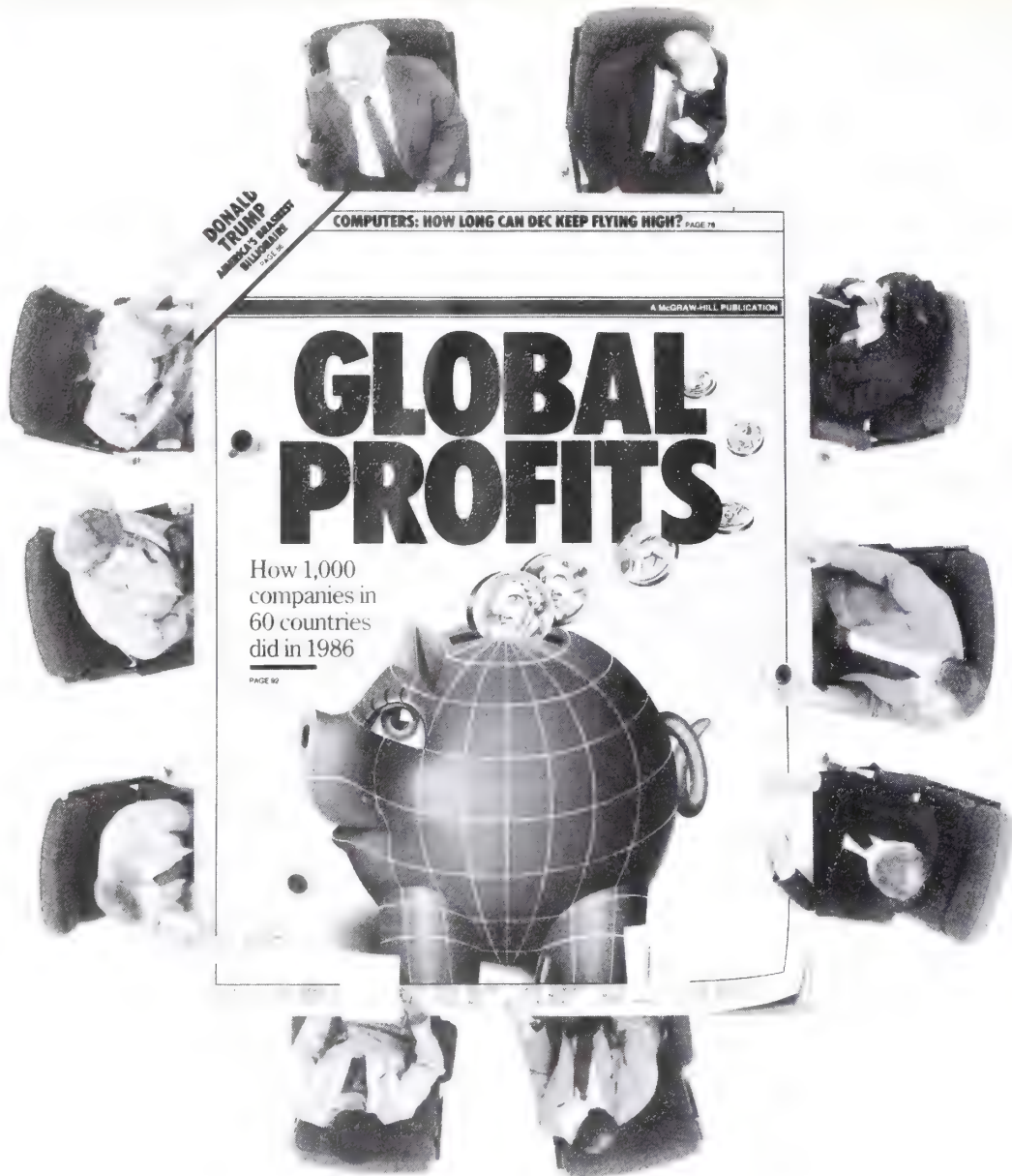
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ECONOMISTS WHO LIVE IN GLASS HOUSES . . .

I wonder if Paul Craig Roberts drives through the streets of America with blinders on ("Supply-side theory is alive and well—in Moscow," Economic Viewpoint, July 24). He declares that the Soviet economy, focused on "collective purpose, is on the edge of collapse." In addition, "Starvation is already nibbling at the edges of the system. [In some places] people spend four or five hours a day searching out the evening meal." He warns of famine unless the Soviets adopt radical economic change.

Despite the drought, the U.S. is in no danger of famine, but in the midst of our plenty, thousands of citizens spend all day searching for work in exchange for food. Many Americans have no place to call home. How many hungry, homeless people did Roberts see in Moscow? How many are in Washington?

It's true that communism hasn't produced the goods and needs serious overhaul. It's also true that the U.S. hasn't delivered the goods to its own citizens. Society has the collective responsibility to ensure that all people receive medical care, nourishment, and education. Then they need to be free from discrimination to pursue their own private initiative.

Dan Smith
 Huntington Beach, Calif.

WHY DOES THE ECONOMY HAVE TO LAND AT ALL?

I disagree with the contention that an economic downturn is both inevitable and necessary to cure inflation ("Green-span's moment of truth," Cover Story, and "Hold your breath, we're coming in for a landing," Business Outlook, July 31). A downturn is not good for the U.S. There's no compelling reason to idle the nation's productivity, throw Americans out of work, and halt the resurgence of industrial competitiveness.

The Federal Reserve Board's anti-inflation efforts show a reliance on the discredited Phillips curve analysis, which postulates an inexorable trade-off between inflation and unemployment. Fed officials have made public statements to

the effect that the economy cannot grow more than 2½% to 3% without accelerating inflation. But Japan and Switzerland, which both have less than 2% unemployment and less than 2% inflation, prove that low inflation and full employment are entirely compatible.

Inflation is caused by too much money chasing too few goods, not by too many American workers. The Fed's efforts to engineer a soft landing may tilt us into an entirely unnecessary recession.

Senator Robert W. Kasten Jr.
 (R-Wis.)

Appropriations Committee
 Washington

There's little doubt that achievement of a soft landing would be heralded as a policy job well done. There is, however, something strikingly perverse about using the sector (i.e., goods-producing) that's less responsible for accelerating prices and more responsible for increasing potential output as the battering ram in the fight against inflation.

So don't be surprised if the sounds of celebration from the industrial sector are tinged with an air of uneasiness.

Howard Keen
 Chief Economist, Conrail
 Philadelphia

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Thank you for your mention of our Seventh Generation catalog in "Buying Green" (Worth Noting, July 10).

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Risa Rae Richmond
 Seventh Generation
 South Burlington, Vt.

SUN'S POWERFUL WARMING EFFECT

I enjoyed your informative article on Sun Microsystems and the computer industry in which it competes ("High noon for Sun," Cover Story, July 24). My

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AETNA. WE GIVE NEW MEANING TO THE WORD DILIGENT.



Readers Report

response after reading the article was one of respect for Scott McNealy and for the more than 10,000 employees of Sun.

For any leader, much less a 34-year-old, to have focused the collective energies of the people who created Sun in a few short years is remarkable. The fact that the company is at a crossroads and that internal and external factors demand change is neither surprising nor unique to Sun. I am certain management's response will be aggressive and timely.

Rick Herrman
Principal
Arthur Young
New York

U.S. TELECOM IS DOING JUST FINE, THANK YOU

Your article "People aren't laughing at U.S. Sprint anymore" (Information Processing, July 31) mentioned that "soon it became clear, however, that U.S. Telecom couldn't make it alone." Please note that our company, U.S. Telecom, a federally registered trademark, has been making it alone just fine for eight years.

We are in no way associated with United Telecommunications. In fact, litigation is pending as to the unauthorized use of the name U.S. Telecom by United Telecommunications.

Robert Berger
President
U.S. Telecom Inc.
New York

Editor's note: United Telecommunications says it has agreed to refrain from using the U.S. Telecom name in its promotional material. But United is seeking court permission to use the name U.S. Telecom for a subsidiary that holds its investment in U.S. Sprint.

FREE MA BELL—AND THE BABIES, TOO

Regarding "Will Alfred Sikes fix the power shortage at the FCC?" (Washington Outlook, June 26), when federal Judge Harold H. Greene, the Justice Dept., Democrats in Congress, and regulators—federal and state—spayed American Telephone & Telegraph Co., they created an unsexed Ma Bell and seven Baby Bell monopolies.

The "authorities" have strapped Ma Bell in a straitjacket and the Baby Bells in Huggies ever since. Hopefully, FCC Chairman-to-be Sikes will release Ma Bell and encourage the Baby Bells to compete with each other, with the inde-

CORRECTIONS & CLARIFICATIONS

A survey of executive education programs ("Give your business skills a B-school brush-up," Personal Business, July 24) overstated the capacity of Harvard's 10-week course. Each class accepts 150 to 160 executives.

The table accompanying the article "Churning out earnings as the economy starts to slow" (Top of the News, July 31) contains incorrect information for Tandem Computers. The correct second-quarter (Tandem's third fiscal quarter) figures are: Sales (millions)—\$420.7; % change—+24; profits (millions)—\$30.8; % change—+78.

In "Investors are developing a taste for this poison" (Finance, July 10) Grumman Corp.'s assistant treasurer, William Wachino Jr., was incorrectly identified as the chief financial officer.

In the article "American cable is lassoing foreign markets" (Media, Aug. 14) Hong Kong should have been identified as a British colony.

pendent telephone companies—including long distance—with nonregulated cable-TV monopolies, and with international telecommunications services.

Meanwhile, the U.S. pays again, and our telecommunications system drops to fourth place behind those of Britain, France, and Japan.

Theodore W. Zetterberg
Monarch Beach, Calif.

AN RX FOR THE CABLE MESS: A DOSE OF COMPETITION

In reference to "How to regulate those cable TV operators" (Editorials, July 17), there's an alternative to either returning cable to the corruption of municipal regulation or the status quo. Ban exclusive cable franchises as violative of First Amendment rights and allow for competing cable systems. To be sure, few such systems will be built, but the threat to cable operators will give them a motive to clean up their act to avert competition.

Jack Mayer
Arlington, Va.

IS TEAMWORK ALL IT'S CRACKED UP TO BE?

Despite statements to the contrary in your article "The payoff from teamwork" (Cover Story, July 10), most research fails to support the assertion that workplace participation per se im-

proves workplace productivity. What research does suggest is that the relationship between participation and objectively measured shop-floor productivity is negligible.

In most other instances, productivity gains appearing to stem from participation are actually the result of changes in job design, compensation practices, goal-setting procedures that accompany the switch to participation.

John A. Wagner
Associate Professor
Graduate School of Business
Michigan State University
East Lansing, Mi.

Editor's note: In the article, BUSINESS WEEK referred to a study by economists Steve Levine and Laura D'Andrea Mason of the University of California. Summarizing major studies, their report concluded that "meaningful participation has a positive effect on productivity" and is "almost never negative or neutral."

TINKERING WITH THE CASH FLOW FORMULA

In your article on corporate cash flow ("Earnings, schmearnings—look at the cash," Finance, July 24), the writer failed to address two important points.

First, his definition of free cash flow—cash flow minus capital expenditures minus dividends—excludes an adjustment for changes in noncash working capital. In our financial consulting work, we have found that working capital investment, especially for companies that are experiencing rapid growth in revenues, is often a significant drain on cash flow that would otherwise be considered free.

Second, through our shareholder-value work conducted jointly with Chicago-based Holt Planning Associates, we have observed that cash flow return on investment (CFROI), rather than simply stock price/free cash flow, seems a more effective yardstick for assessing company value. Unlike the stock price/free cash flow multiple, CFROI reflects an inflation-adjusted value of a company's fixed assets as well as a realistic estimate of their remaining economic life.

David A. Spieler, CA
Senior Consultant
Arthur D. Little
Cambridge, Mass.

Letters to the Editor should be sent to React Report, Business Week, 1221 Avenue of the Americas, New York, N.Y. 10020. Fax: (212) 512-6600. Telex: 12-7960, Intl. 4998204. All letters must include an address and daytime and evening telephone numbers. We reserve the right to edit letters for clarity and space.

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Food must not be allowed to go rotten, and donated blood is needed to save lives. That's why ICI is developing a new generation of ozone-friendly fluorocarbons.

Protecting the ozone layer took a really cool idea.

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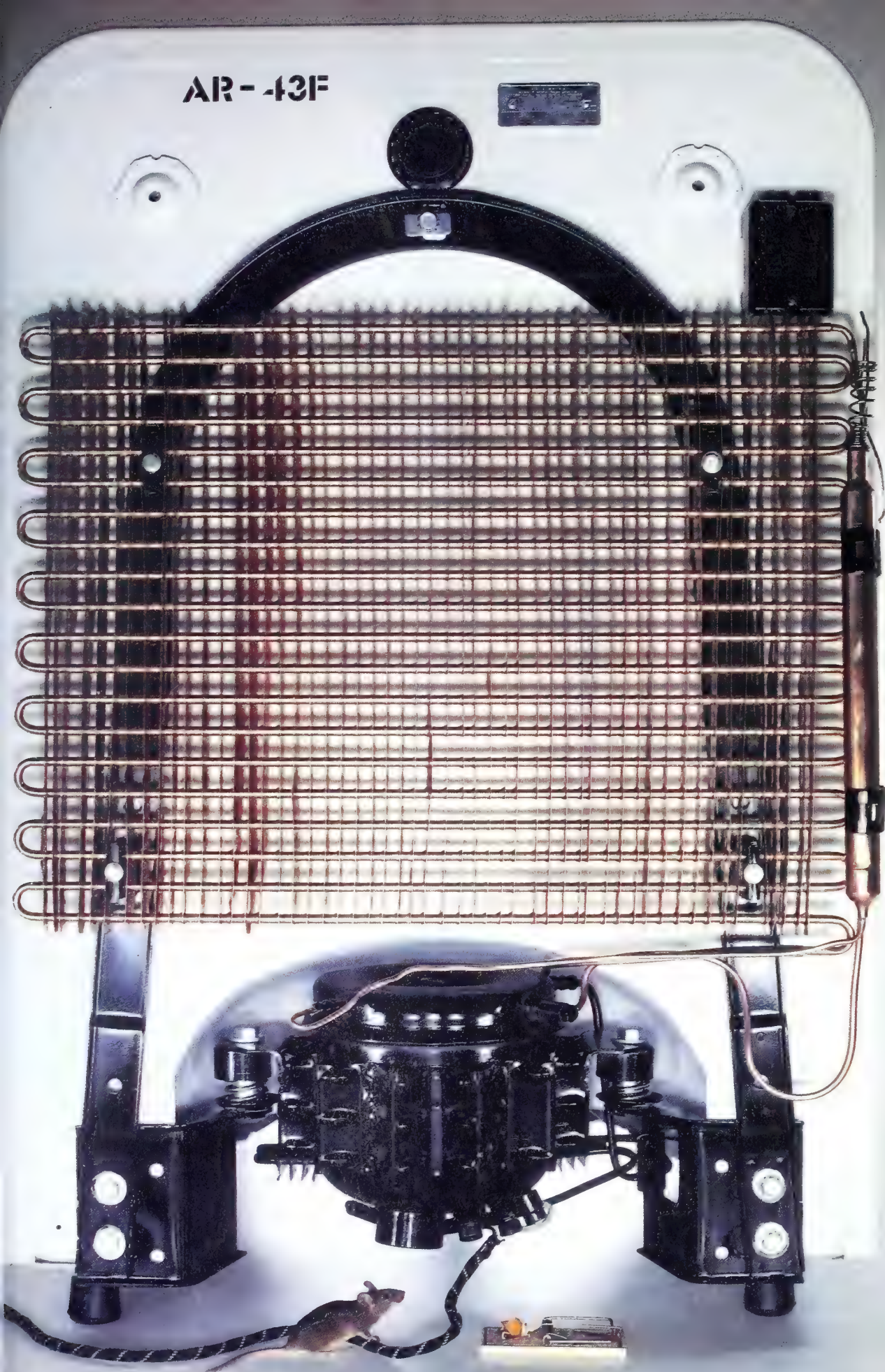
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At ICI we are continuing in our efforts to find the best solution to all kinds of problems, every day

Because we believe the coolest idea is one which is the best solution

AR-43F



DEALING WITH THE CHINESE

By Scott D. Seligman
Warner Books • 213pp • \$12.95

IF EVERYBODY BOUGHT ONE SHOE

By Graeme Browning
Hill & Wang • 239pp • \$18.95

TWO TOP-NOTCH PRIMERS— EVEN AFTER TIANANMEN

Two fine books about doing business in China have appeared in a classic case of right place, wrong time. Published just weeks after Chinese soldiers fired on unarmed pro-democracy protesters in Beijing, neither book discusses the political upheaval and subsequent flight of foreign businesspeople. But both address aspects of China's business culture and climate that existed before the present situation developed. And both contain lessons likely to prove useful if business picks up again.

Scott Seligman's *Dealing with the Chinese* offers pointers on etiquette and negotiating that will be relevant for years to come. Graeme Browning's *If Everybody Bought One Shoe* explains why the U.S. love affair with China soured in the mid-1980s. Pointing to inherent frictions between Chinese and foreign businesspeople, she shows how the initial enthusiasm of U.S. companies changed to uncertainty and disappointment long before the shooting in Tiananmen Square. It would be a pity if the June 4 crackdown kept Western readers from buying these books.

Seligman's is a particular delight. Intended as a reference for executives, it's simple enough for neophytes on their first trip to China, complete enough for those who visit regularly, and entertaining enough to read at the beach. Seligman, a Burson-Marsteller creative director who has years of experience in China and speaks Mandarin fluently, tells how to make sure you never cause a Chinese counterpart to lose *mianzi*, or "face." He explains why you shouldn't stick your chopsticks straight up in a bowl of rice (when vertical, they resemble incense sticks at a funeral). And he helps you tell the difference between a gift and a bribe.

Seligman can save visitors to China a lot of embarrassment. Suppose you take a tumble on a slippery floor, and the Chinese around you just stand there gig-

gling. Don't be offended, says Seligman. "Laughter is...one way the Chinese have of dealing with uncomfortable circumstances." And if a Chinese asks you how much you earn or why you are childless, he's just making small talk. Either answer straightforwardly, or dismiss such questions humorously.

A former financial reporter for the *Chicago Sun-Times*, Browning is a relative newcomer to China, and in places her inexperience shows. But she is far

Oxy managers say their days at mine are numbered.

If China's huge potential as a market was a myth, why did so many large, well-known U.S. companies invest there? One reason, says Browning, is the warm reception the Chinese give visiting executives. The friendliness is off what China scholar Lucian Pye of the Westchester County Synagogue describes this as "the overwhelming desire to chance upon another powerful corporate chief on some private golf course outside New York City and say in passing: 'Oh, yes, I just turned from China, where I opened a way for our company to do business.' These self-satisfied executives never realized that a smooth meeting did not guarantee results, and that negotiating a deal or implementing a contract was far tougher than they ever imagined."

One reason Americans' expectations were inflated out of proportion to their experience is the cyclical nature of Chinese politics. At the time of the isolation and xenophobia of the late 19th and early 1970s, it seemed China could do nowhere but up—in politics, economics, and human rights, as well as business. On the fronts, the record of the 1980s was not great by world standards. But Chinese historical standards, it was fantastic. Business conditions were bad, but progress in the early 1980s was



from naive, and while less timeless, her book is more analytical than Seligman's. Examining the experiences in China of Occidental Petroleum, American Motors, Gillette, and Beatrice, she attempts to explain why the business bubble burst. The most ambitious U.S. joint venture in China, Occidental's \$750 million open-pit mine project, has met formidable obstacles since Armand Hammer started it in 1982. First, Oxy found out that for the Chinese, a contract is simply a starting point, not a binding commitment. "Our joint-venture partner hasn't lived up to one single promise yet," a top Oxy manager told Browning. Then, there was the culture clash. Located in a remote and primitive part of the country, the mine project angered local peasants, one of whom attacked a mine worker and bit off the end of his nose. Unmotivated labor was another problem. Finally, a sharp drop in the price of coal soured many bankers on the project. Now, some

so fast that no one minded much at the time. It wasn't until the progress slowed in the mid-1980s that both foreign businesspeople and well-informed Chinese citizens began to judge China on a global scale—and were dismayed.

In fact, most Americans weren't more gullible than the Chinese, who shared the same cycles of euphoria and despair. The year 1984, a high tide of business optimism, was a turning point for China. After that, Chinese intellectuals, taxi drivers, managers, and students began to get cynical. While most supported Deng Xiaoping's economic reforms, their expectations, too, had been raised so high that the changes could not meet them. With 20/20 hindsight, one can see these hopes were unfulfillable for foreign business and China alike.

BY DORI JONES

Hong Kong Bureau Chief Jones Yang covered China for 10 years and never learned not to stand her chopsticks in her rice.

Why North Carolina Had Two Teams In The Finals



Last fall, Sears announced the sale of the Sears Tower and the possible relocation of its Merchandise Group headquarters with up to 4,000 families being directly affected. It was to be the largest corporate move in the nation's history.

Competition:

- All 50 states

Finalists:

- Raleigh, NC • Charlotte, NC • Midwest Location
- Southwest Location

How Two North Carolina Cities

Reached The Finals:

- North Carolina is home to the nation's fifth largest financial center.
- Two international airline hubs—Piedmont/US Air and American Airlines.
- Education—free kindergarten to a 16-campus university system.
- Fifty eight Community Colleges providing *free* training and re-training programs for new or expanding businesses.
- Large and productive labor force—North Carolina is the tenth most populous state in the nation.
- Low energy and construction costs.
- Unequaled proximity to major markets.
- Quality of life—From the Great Smokey Mountains to the Outer Banks, North Carolina has abundant year-round activities to suit anyone's taste.

Additional Points Scored by North Carolina:

- Over 12,000 Sears employees are already working in North Carolina in its retail stores, catalog sales, distribution, credit card and electronic repair centers.
- Sears largest U.S. vendor support network with 330 North Carolina companies supplying Sears with quality products.

So why did North Carolina have two cities in the finals? With all we have to offer a growing company, the answer is simple—no contest!

To find out how your new or expanding business will score in North Carolina, contact: Robert G. Brinkley, Assistant Director—Business/ Industry Development Division, North Carolina Department of Commerce, 430 North Salisbury Street, Raleigh, North Carolina 27611, phone: (919)733-4151.



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INVESTMENT IS FINE— IT'S THE CRITICS WHO ARE WRONG

BY PAUL CRAIG ROBERTS



In real terms, investment as a share of GNP reached a postwar high in the 1980s. But economists—and the Fed—insist on misreading the figures, which could send the economy into a tailspin

Investment in capital goods reached unprecedented postwar heights during the Reagan years. It is important to understand this because present Federal Reserve Board policy is based on the incorrect assumption that there has been a paucity of investment in the 1980s, leading to overconsumption and renewed inflation. The federal budget deficit is viewed as the primary evidence of overconsumption.

These fears of inflation are about to receive a new boost. According to the rule of thumb used by the Congressional Budget Office to estimate the budgetary impact of economic growth, the current slowdown will swell the deficit by about \$50 billion. This comes on top of approximately \$33 billion added to the deficit by the Fed's efforts to slow consumption with higher interest rates. If the landing is harder than the Fed expects, the deficit outlook will be worse.

GROSS UNDERSTATEMENT. The claim of poor investment performance is based on what is termed "nominal net investment," a measure that's fundamentally misleading. During the 1980s, the prices of capital goods rose only about half as fast as prices generally. With the economy inflating faster than capital goods, the "nominal," or current-dollar, measure of investment's share of gross national product understates the amount of real investment that is taking place.

For example, if the economy were adding new factories every year at a 10% higher cost, the share of investment as a percentage of GNP would appear to be falling if all other prices were rising by 20%. Measuring investment in real terms avoids misinterpreting this decline in the relative price of capital goods as a fall in investment's share of GNP.

The "net" component of nominal net investment also works to understate investment. On the surface, net investment—the amount that is added to investment after depreciation is figured in—seems a better indication of the growth of productive ability than gross investment. But net investment can fall simply because of a shift in the composition of investment from longer-lived assets, such as buildings, to shorter-lived assets, such as equipment, that generate more depreciation and cash flow.

Net business fixed investment has been falling as a share of GNP since 1966. This decline reflects a rise in the depreciation rate corresponding with increases in equipment's share of investment from about 57% to 71%, a trend accelerated by tax reform. Thus, the gross measure of investment guards against confusing a change in asset mix with a decline in investment behavior.

In real terms, gross investment as a

share of GNP reached a postwar high in the 1980s. This investment performance greatly contributed to the recovery of U.S. productivity growth from its near standstill in the 1970s. Since 1981, American manufacturing productivity has been especially impressive, growing almost double the postwar average.

The strength of U.S. business investment and productivity growth during this decade has been extraordinary in light of the relatively high unemployment and low capacity utilization during much of this time. If investment is justified for such a cyclical difference, the strength during the Reagan years is unprecedented in the postwar period.

The misleading portrayal of U.S. investment performance in the 1980s is part and parcel of the attack on Reagan's policy of restoring private property rights and free markets. Many American economists remain preoccupied with distributional issues, and they continue to associate fairness with more government intervention in the economy. Some economists view the Reagan tax cuts as having deprived government of the revenues necessary for the pursuit of fairness. Consequently, they have tried to deny that tax cuts resulted in improved economic performance.

The lack of confidence in a free economy on the part of the Federal Reserve, many academic economists, and liberal members of the media explains the undue emphasis on the failures, rather than the successes, of Reaganomics. Nothing would please tax-and-spend advocates more in their effort to revive growth of the welfare state than a recession that's pinned on tax cuts.

LAST-MINUTE SAVE. It's unfortunate that Federal Reserve policy has been affected by misleading measures of saving and investment. In the mistaken belief that the growth of investment was weak to permit noninflationary growth, the Fed has twice come perilously close to wrecking the Reagan expansion.

Newly released data from the Commerce Dept. show that the economy most fell into recession during the second and third quarters of 1986. In the second quarter, the economy contracted by 1.8% and was saved from recession by a tiny 0.8% third-quarter expansion.

As a result of an extremely tight monetary policy from January, 1988, to June of this year, the economy has lost momentum, is slowing markedly, and may be tumbling into recession. If the expansion is curtailed and millions of people suffer, it will be the direct consequence of a misconstruing of the Reagan economy as an inflationary, consumption-led expansion accompanied by weak investment.

PAUL CRAIG ROBERTS HOLDS THE WILLIAM E. SIMON CHAIR OF POLITICAL ECONOMY AT THE CENTER FOR STRATEGIC & INTERNATIONAL STUDIES IN WASHINGTON

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Laser beams are also emitted from a central source. Glass fibers serve to conduct concentrated laser energy to a specific destination, thus making use of laser energy much more flexible. One application is a drilling robot based on optical transmission technology developed by Schott.

The Aradida, less attractively known as the flat bug, gets its nourishment from deep crevices in tree bark.

To do this, it uses a slender proboscis which stretches up to six times the length of its body. And since the proboscis is too fine to accommodate a gland, the digestive fluid is produced centrally, in the bug's body. This secretion is then conducted to its destination through a duct.

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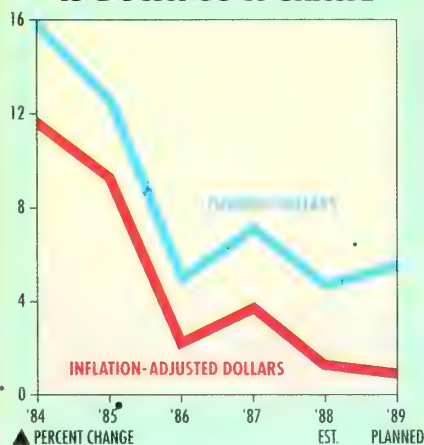
BY GENE KORETZ

BUSINESS TALKS A BETTER R&D GAME THAN IT PLAYS

American business continually bemoans its "lost competitiveness" and generally concedes that one of the most critical needs to assure its long-term future is enhanced investment in research and development. Yet "U.S. businesses apparently intend to continue to neglect R&D activity," reports Data Resources, a McGraw-Hill Inc. unit.

According to the latest DRI/McGraw-Hill annual survey of corporate R&D spending plans, such expenditures are

R&D SPENDING GROWTH IS DOWN TO A CRAWL



slated to rise just 5.5% this year. While that's slightly higher than last year's meager 4.7% advance, it's actually lower in real terms. With inflation running at its fastest clip since 1982, DRI economists figure that real outlays will increase by less than 1% in 1989, compared with 1.3% in 1988 and 3.7% in 1987 (chart).

The disquieting reality is that R&D expenditure growth has slowed sharply in recent years despite its widely acknowledged importance. After rising at a hefty 12.7% annual clip from 1976 through 1985, such outlays have been crawling forward at less than a 6% rate. In real terms, the slowdown has been even more dramatic, with spending growth falling from a 6.6% average rate to about 1.8% (counting this year). In fact, 1989 will mark the third time in four years that R&D investment has expanded more slowly than the economy itself.

To be sure, some business sectors are planning double-digit increases this year: Metal mining projects a 15.6% rise in

current-dollar outlays; stone, clay, and glass, 15%; rubber and plastic, 13.5%; and business services, 13.8%. But these account for a very small slice of the R&D pie, while the traditional big spenders, aerospace and electrical equipment, are boosting spending by only 6.1% and 3.1%, respectively. Other big R&D investors such as chemicals, motor vehicles, and nonelectrical machinery are anticipating increases of 5.6% to 8.6%.

DRI attributes the ongoing slump in R&D spending to business' continuing obsession with short-term profits, a trend that has been fostered by the merger and acquisition boom, rising debt burdens, and persistently high real interest rates. Yet, notes economist Nigel Gault, research studies suggest that after a few years, R&D investment produces annual returns of about 20% for the initial investors—plus another 25% that accrues to society as a whole as new technology and other advances spill over to the rest of the economy. Indeed, DRI's economic model indicates that a permanent 1% reduction in the growth rate of real R&D investment eventually leads to a 0.85% cut in the economy's potential growth rate.

A THINNER TRADE GAP WILL PUT THE HEAT ON BUDGET-CUTTERS

As noted in these columns last week, recent data revisions indicate that the overall trade deficit is significantly smaller than previously thought. Because of new details on service "exports," such as spending by foreign tourists and students in the U.S., the 1988 trade deficit in goods and services was revised down by 22%, or \$21 billion. And the trade deficit for the first quarter of 1989 was slashed by 32%, or more than \$25 billion (at a seasonally adjusted annual rate) from the original estimate of \$79.3 billion.

Welcome as this news is, economist Robert H. Chandross of Lloyds Bank in New York points out that it has a worrisome aspect. Because the trade deficit is the major source of foreign investment funds flowing into the U.S., any reduction in the trade gap lowers the amount of foreign savings available to finance the federal budget deficit and domestic investment. Thus, one result of the higher figures for U.S. service exports has been a sharp downward revision in the numbers relating to foreign investment.

Net foreign investment in the U.S. last year, notes Chandross, was previously estimated at \$136.2 billion but is now set at \$122.8 billion, or \$29 billion

less than last year's budget deficit. What's more, net foreign investment in the first half of this year has been running at only a \$100.5 billion annual rate, while most observers believe the budget deficit will be close to last year's. That means the Treasury will have to rely more on domestic savings to fill the budget gap. In short, "without meaningful progress in cutting the federal deficit," warns Chandross, "the trade numbers point to an increased risk that the government's financial needs will push up interest rates and crowd out domestic investment."

DON'T GET TOO COMFORTABLE UP THERE IN THE EXECUTIVE SUITE

If you're an aspiring top executive, take heart from today's uncertain economic climate. And if you're already at the highest rung of the executive ladder, don't rest on your laurels. That seems to be the underlying message of the new report on headhunting activity in the second quarter. The association reports that demand for senior executive search, chief executive officer, chairman, and division general managers—rose by 4% over the first quarter and accounted for 24% of the 1,000 searches initiated by members.

Says AESC President Janet J. Parker: "Recession anxiety is causing companies and corporate boards to closely scrutinize and monitor their executive decision-makers and, in some instances, to replace them."

IS 2% INFLATION ABOUT TO REAR ITS LOVELY HEAD?

Most economists agree that consumer inflation is losing steam after jumping at a 5.5% to 6% annual rate in the first half. But a growing number think the slowdown could be surprisingly sharp—and persistent. Maury Holt at PaineWebber Inc. believes consumer price hikes are now set to rise at an estimated 4% pace through 1990. Martin Barnes of *The Bank Credit Analyst* says that "there's good reason to believe that inflation could come in well below 4% next year." And Robert J. Barba at Shearson Lehman Hutton Inc. forecasts soft gasoline and food prices could bring consumer inflation to a 2% rate in the current quarter and below 3.5% through the first quarter of 1990.

THE SECOND HALF WON'T SIZZLE— BUT IT WON'T FIZZLE, EITHER

The second half is coming into clearer focus. July's healthy report from the labor markets is soothing fears that the economic slowdown will sink into recession. Fresh job gains are bolstering consumers' incomes and their spirits. That, together with the fourth decline in interest rates, should help shore up lagging sectors such as housing and autos.

Meanwhile, the second-half outlook for inflation is improving. Manufacturing is gearing down in response to the first half's consumer-spending malaise, and that's helping to brake inflation in the goods-producing sector. Prices for food and energy, largely responsible for the first-half speedup in inflation, look tamer in the second half.

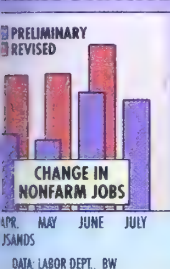
Still, the inflation outlook is worry-free. Service prices aren't nearly as reined as goods prices. And service wages are rising faster than those in manufacturing. Because of productivity growth, fast-rising unit labor costs are laying a floor under service inflation. In addition, economic growth this half does look decidedly sluggish. In past expansions, weakness in manufacturing has always hit other sectors. The government's leading indicators continue to forecast a slower economy.

JOBS ARE UP, BUT NOT AT ALL RATES

The labor markets tell the economy's story. They show slower but healthy job growth, with manufacturing responsible for most of the weakness. Nonfarm payrolls rose by just 169,000 in July, to 108.7 million, compared with an average monthly gain of 244,000 in the first half. Still, the unemployment rate fell slightly, from 5.2%, as large numbers of teenagers found jobs. Although July job growth was the smallest in more than three years, the government revised the June gain sharply higher, to 250,000 from 180,000. In fact, in each month of the second quarter, the Labor Dept. refigured the increases to the preliminary job data (chart). So the payroll figures may well be revised upward when August job data are released.

Reported job growth in either August or September, depending upon the timing of the Labor Dept.'s survey, look unusually weak at first glance, but that will reflect the strike over health care benefits by more than 100,000 communications workers at some of the regional "Bell" phone companies.

ECONOMIC GROWTH STARTS LOOKING STRONGER



Weak demand for many goods, however, is cutting into factory payrolls. Manufacturing jobs, basically flat in July, have been shrinking since hitting their peak for this expansion at 19.7 million jobs in March. And the factory workweek was unchanged at 41 hours. That means factory output remained sluggish last month.

All the weakness has been in durable goods. The auto industry is hurting because of sluggish demand for domestically made new cars. And U.S. capital-goods manufacturers are losing out to foreign producers during the current equipment spending boom. Imports captured a record 34.3% of the capital-goods market in the second quarter. Hardest hit have been U.S. electrical machinery makers, where 28,000 jobs have been lost since March.

Nondurable goods employment, however, has grown strongly this year, despite falling consumer spending for such goods. More than 21,000 jobs were added in July alone. Exports are the key support. In the first half, real foreign shipments of softgoods, including chemicals and paper products, rose at a 25.5% annual rate.

Consumer-led sluggishness in manufacturing is a big reason for the downturn in the government's index of 11 leading indicators that signal the economy's future course. In June, the index dipped 0.1%, the fourth decline in the past five months (chart). Seven of the indicators fell, mostly reflecting weakness in many of the factory-related measures.

Construction—one of the economy's weakest links in the first half—reported big job gains in July, up by 37,000, and the workweek jumped sharply. If both indicators remain high in August, they could signal that construction is rebounding a bit in the third quarter.

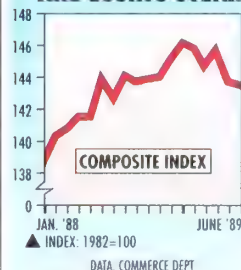
SERVICE COMPANIES ARE STILL HIRING

Total service jobs rose by just 140,000 in July, but they had surged by 271,000 in June. Gains in the private sector alone looked stronger, led by retail trade. Government jobs fell by 25,000.

Employment in business services, up by only 3,000 workers in July, has been slowing down. That could be a sign that weakness in the goods sector is affecting the service economy. Amid weakening sales, companies tend to cut spending on such services as accounting, computer processing, and consulting.

Even though employment growth slowed in July,

LEADING INDICATORS ARE LOSING STEAM



Business Outlook

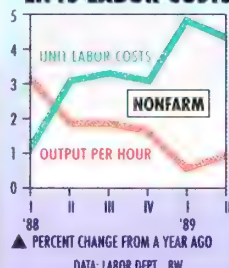
wages were up at a fairly healthy clip. Overall nonfarm hourly earnings rose 0.7%, to \$9.69. Pay in finance, services, and wholesale trade all posted strong increases.

Crosscurrents in the economy are significantly affecting wage growth. For example, pay in manufacturing—where output has been sluggish—rose by 2.9% over the past year. That's basically the same yearly increase as in July, 1988. But service wages, which include big raises for health care workers, are up 5.9% from a year ago, compared with a 5.3% rise in the previous year.

A WAGE BURST MAY BOOST INFLATION

The current pace of wage growth could make trouble for the inflation outlook. That's particularly true now, when productivity growth, especially in services, is too anemic to offset the impact of rising wages on unit labor costs. Productivity, or output per hour, typically begins to sag as the economy slows.

POOR PRODUCTIVITY LIFTS LABOR COSTS



Indeed, output per hour in the nonfarm economy managed only a 0.2% gain last quarter at an annual rate, following a 1.3% drop in the first quarter. Last year, productivity rose 2.1%, but over the past four quarters, growth has slipped to only 1%.

But with wages outpacing output per hour, the cost of producing a unit of output has accelerated (chart). After rising

only 2.7% last year, unit labor costs jumped at an annual rate of 6.2% in the first quarter of 1989 and by 5.2% last quarter. That's squeezing profit margins and prompting some companies to raise prices.

Manufacturing is not the problem. Output per hour at factories rose 3% last quarter, after increasing 3.3% in the first quarter. That's a bit slower than last year's 3.6% pace, but it's enough to hold growth in unit labor

costs to only about 1% in both the first and second quarters, virtually no pickup from last year. That performance enhances the factory sector's competitive position abroad and helps hold down price increases at home.

The inflation threat stems from the service-product sector, which employs nearly four-fifths of all nonfarm workers. Productivity growth there remains stagnant and that's where wages are rising the fastest.

INCOME GROWTH WILL BUOY SPENDING

The upside of wage growth is income gains for consumers. Average weekly earnings of nonfarm workers jumped 1.6% in July, to \$338.18, the biggest monthly increase in more than 10 years. That assures a healthy advance in July personal income, to be reported later this month. Income gains like that will keep consumers from quitting retail markets in the second half.

Consumer attitudes seem to be perking up, most likely in response to continued healthy labor markets, low interest rates, and the reduced threat of inflation. In addition to the big jump in the Conference Board's index of consumer confidence in July, the University of Michigan's measure of consumer sentiment also rose.

Lower interest rates are the most important factor. Housing demand picked up a little in June, probably enough to brake the fall in homebuilding. And auto sales rebounded in July, to a 7.6 million annual rate for domestically made cars, from 7 million in June.

Consumers are still ready to take on more credit. Total borrowed \$3 billion more in June than they paid off, pushing outstanding consumer debt to \$701.1 billion. Because of weak car sales in June, auto credit fell, but revolving credit—charge-card balances and other types of bank borrowing—kept growing rapidly. It rose \$2 billion in June on top of May's \$2 billion increase.

With the labor markets starting the second half on solid footing, consumer spending will probably be strong enough to keep the economy afloat.

THE WEEK AHEAD

BUSINESS INVENTORIES

Monday, Aug. 14, 10 a.m.

Inventories at factories, wholesalers, and retailers probably grew by 0.4% in June, slower than the 0.7% increase in May. That's suggested by the already reported 0.3% rise in manufacturing stockpiles. June business shipments likely fell 0.4% after no change in May.

HOUSING STARTS

Wednesday, Aug. 16, 8:30 a.m.

Housing starts likely rose to an annual rate of 1.45 million in July. Construction jobs and hours worked increased sharply last month, indicating homebuilding rebounded. Falling mortgage rates may also help the outlook for housing. In

June, new homes were started at an annual rate of 1.4 million.

INDUSTRIAL PRODUCTION

Wednesday, Aug. 16, 9:15 a.m.

Output at the nation's factories, mines, and utilities was probably little changed in July. Total hours worked in manufacturing were up slightly, but that was offset somewhat by a strike-related decline in coal mining. Thus, the goods side of the economy remains weak. Output fell 0.2% in June and 0.1% in May.

CAPACITY UTILIZATION

Wednesday, Aug. 16, 9:15 a.m.

Flat output last month indicates that capacity loosened again in July, probably to about 83.3%. That's off a bit from

83.5% in June and down a full percentage point from the expansion's peak posted in December.

MERCHANDISE TRADE DEFICIT

Thursday, Aug. 17, 8:30 a.m.

Most economists believe the trade deficit narrowed to \$9.5 billion in June from \$10.2 billion in May. A drop in customs duty payments suggests imports fell after rising 4.3% in May. Exports, down 0.9% in May, probably rose in June.

CONSUMER PRICE INDEX

Friday, Aug. 18, 8:30 a.m.

Consumer prices probably rose a small 0.2% in July, the same gain as in June. Lower energy prices and stable food costs offset gains in other areas.

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the Big Three
into the Big Four.

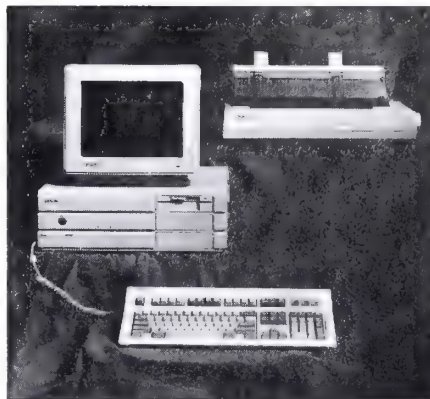


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UNITED'S TERMINAL
AT O'HARE IN CHICAGO



AIRLINES

AUGUST 21, 1989

NOW, THE SKY'S THE LIMIT

THE BID FOR UNITED SHOWS JUST HOW WELL AIRLINES FLY ON WALL STREET

It was supposed to be a done deal. In 1987, UAL Corp.'s board succumbed to the pressures of Wall Street and dramatically restructured the company. Out went CEO Richard J. Ferris, plus the hotel and car rental properties he had bought. In came Stephen M. Wolf, the industry's top turnaround artist. He proceeded to buy back \$2.8 billion in stock and to boost operating profits last year by 169%.

It's time to feed the investors again. Now, UAL's board must figure out whether to fend off or accept a \$5 billion takeover proposal from Marvin Davis, a Los Angeles billionaire who holds around 3.5% of United's stock and who recently made a profitable run at Northwest Airlines Inc. Although the board is expected to spurn Davis, it will probably

have other proposals to consider soon. Even Pan Am Corp., the industry basket case, says it would be interested in a friendly deal for UAL. Not surprisingly, UAL's stock surged to \$243½ from \$164½ on all the news.

United is not the only airline speculators are eyeing. That's why Delta Air Lines Inc. built its takeover defenses by setting up an employee stock ownership plan and why USAir sold a special issue of preferred stock. The paper, which represents about 12% of the voting shares, is now in the avowedly friendly hands of Berkshire Hathaway Inc., investor Warren E. Buffett's vehicle.

Didn't the airlines already ride out one takeover wave? Yes, but here it comes again, for Wall Street has convinced itself that after 10 years of airline merg-

ers, the surviving giants have enough market share, cash flow, and underused assets to qualify as takeover candidates themselves (table). However, some of this euphoria over airline stocks may prove overblown as federal regulators scramble to figure out a way to halt takeovers and the market for airline assets heads into uncharted territory.

PLUMP GOOSE. For now, though, investors are willing to run the risk of federal intervention to get in on the kill. "United looks the most vulnerable. It has come back faster than anyone expected, and the market is saying that it's underleveraged," explains Raymond Neidl, a bond analyst at Dillon, Read & Co. In 1989's first half, operating income at the \$9 billion carrier jumped 47.2% to \$364.3 million. That's why Wolf and



STEPHEN WOLF

financial officer, John C. Pope, sterling reputations as airline man- which only adds luster to United. Investors already have made a bundle of money—Wolf included: His United shares are worth more than \$35 million. At this point, some big shareholders probably be persuaded to vote for takeover. Raider Saul P. Steinberg's Coniston Group owns 7% of United. Coniston Partners, the investment group helped push UAL to restructure a decade of years back, still holds stock. "I'm very happy to be a shareholder at United," says Coniston principal Paul Steinberg. He says Coniston plans no bid for United but notes that "airlines are companies to be privately owned." Financial planners eyeing a United deal face grave risks, however. United has a 30% market share to lose to American, and it must rely heavily on planes it has bought up. And it'll be hard to score gains, since the industry's growth in traffic is slowing.

DOWN. Even more troubling are United's problems. The carriers in federal mediation with its flight attendants and pilots, and the contracts became unworkable in Novem-

ber, 1987, and April, 1988, respectively. The Association of Flight Attendants recently voted to strike if mediation fails.

A strike by flight attendants would gum up operations but not stop the carrier cold. The pilots are another matter. Some United pilots have been taxiing their planes at slow speeds to show their displeasure. A step-up in such actions could easily snarl the airline's schedule. And the pilots have also tried for months to engineer a buyout of United but have been stymied by litigation with the machinists, who distrust the pilots' intentions. The machinists' contract comes up later this year.

With labor relations at United so contentious, it's no wonder that one financier involved with airline transactions predicts that any buyer for United will

have trouble convincing bankers that the labor situation is settled enough to justify lending billions. "Investment bankers will do the work [of evaluating a United deal] if they're paid to do it," he says, "but every one of them is calling it a fool's errand."

PLANE POWER. There's also the growing chance that Washington, not Wall Street, may decide the takeover issue. Transportation Secretary Samuel K. Skinner is worried that leveraged buyouts of airlines will lead to an erosion of service and safety. Says a senior Skinner aide: "There isn't a day passes that we don't wrestle with this issue."

Right now, Skinner has no tool, such as antitrust regulations, that can easily stop takeovers by financiers. Los Angeles investor Alfred Checchi, for example,

posed no antitrust issue by taking over Northwest. Skinner, nonetheless, is putting the deal under a microscope. Beyond asking Checchi's group for a detailed schedule of major asset sales, Transportation has hired Coopers & Lybrand to test Checchi's business assumptions under various economic scenarios. The outcome of the review could reverberate on United and

UNITED LOOKS ATTRACTIVE...

RIISING CASH FLOW With operating earnings up 47%, cash flow this year should reach \$1 billion, up from \$673 million last year. United also has \$1.2 billion in cash on hand

UNDervalued ASSETS United owns 80% of its fleet of 416 aircraft, which could be sold and leased back to raise about \$3.8 billion

FINANCIAL STRENGTH Debt as a percent of capital has declined to 65%, from a high of 80% in early 1988. Off-balance-sheet obligations are less onerous than at Delta or USAir

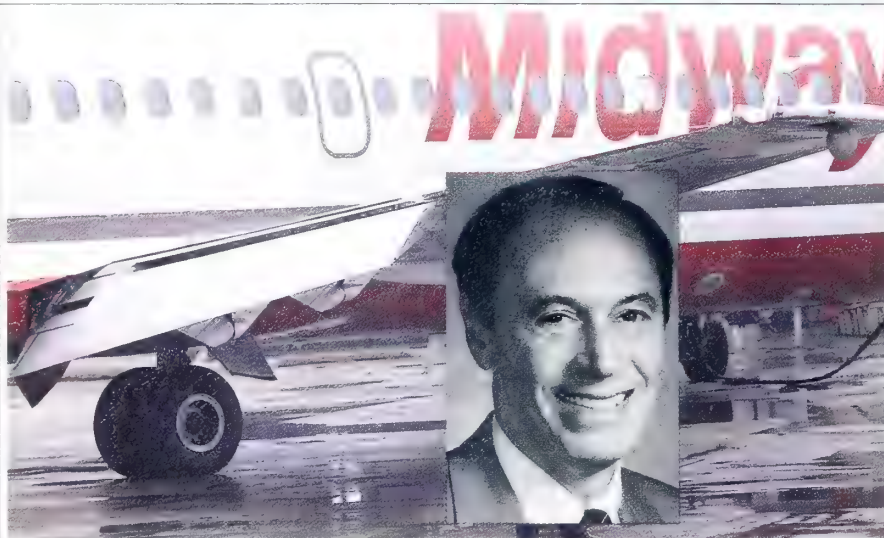
...AND SO DO ITS RIVALS

Carrier	Stock market value*	Est. takeover value
	Dollars per share	
AMERICAN	\$79 $\frac{3}{8}$	\$114
DELTA	79 $\frac{3}{8}$	110
UNITED	243 $\frac{3}{8}$	280
USAIR	51 $\frac{3}{8}$	84

*As of Aug. 9

DATA: STANDARD & POOR'S CORP., BRIDGE INFORMATION SYSTEMS INC., GERARD KLAUER MATTISON & CO. ESTIMATES

IS A NUTSY-BOLTSY COMPANY OUT TO NAIL MIDWAY AIRLINES?



AMPCO'S MARSHALL BERKMAN: OUT OF THE RED AND INTO THE WILD BLUE

An unlikely investor has joined the frenzy for airline companies. On Aug. 8, Ampco-Pittsburgh Corp. confirmed that it had paid \$10.3 million for a 6.6% piece of Chicago's Midway Airlines Inc. Ampco-Pittsburgh described the purchase as an investment—but didn't rule out trying to buy Midway outright.

If Ampco-Pittsburgh seeks control, it would open new horizons for the Pittsburgh-based industrial manufacturer. With \$250 million in sales, Ampco is a hodgepodge of operations that make steel rollers, air-conditioning gear, and electric pumps. As part of a three-year restructuring, it sold industrial businesses accounting for about half its sales. Now that Ampco is back in the black, Chief Executive Marshall L. Berkman wants to rebuild. One company insider says there's "a tug-of-war" between operations people who want to bolster manufacturing lines and those who want to invest elsewhere.

The wheeler-dealers appear to be winning. Last year, Ampco-Pittsburgh paid \$6 million for a 23% interest in the leveraged buyout of Northwestern Steel & Wire Co. and earlier bought a 30% stake in Cleveland-based U. S. Biochemical, a major producer of research biochemicals. It also recently sold for a small profit its 3% of Zurn Industries, a specialist in waste-to-energy systems.

This isn't the first time Midway has attracted takeover attention. In 1985, a shareholder group unsuccessfully tried

to unseat the board. They wanted then-struggling Midway, a small carrier with \$418 million in 1988 revenues, to return to the low-fare strategy it started life with. Midway's name has since been mentioned as an attractive acquisition candidate for bigger carriers.

SURVIVOR. The reason: Its landing slots and gates are an easy way for an airline to expand in Chicago. In fact, its dominance at Midway Airport has helped make it one of only three start-up jet carriers to survive deregulation. Raiders also like Midway's \$206 million deal for Eastern Air Lines Inc.'s Philadelphia gates and its orders and options for 74 McDonnell Douglas jets.

While no bidder has appeared, Midway last spring said it preferred to remain independent but would listen to any offer. As the news pushed Midway stock above \$20 for the first time since 1983, analysts said Midway might be taken over for \$22 to \$24 a share.

Berkman and his 80-year-old father, Louis, might have a hard time passing up a good deal. In 1962, Louis bought Screw & Bolt Corp. of America, which later became Ampco-Pittsburgh. Starting as a scrap dealer in the 1920s in Steubenville, Ohio, Berkman has dabbled in steel mills, radio stations, and a greeting card company. He even served as chairman of a bank for a time. For the Berkmans, an airline company might be just the ticket.

By Michael Schroeder in Pittsburgh, with James E. Ellis in Chicago

other airlines. Meantime, Senators Wendell H. Ford (D-Ky.) and John McCain (R-Ariz.) have introduced legislation to slow down airline dealmaking.

If Skinner and Congress attempt strong action, they will surely feel the immense lobbying power of the financial world, which has figured out how to bankroll big airline takeovers. As Edmund S. Greenslet, publisher of the *Airline Monitor*, puts it: "It all starts with the value of the airplane." With airline intent on expansion, the market value of used airplanes, especially widebodies like the Boeing 747, has risen dramatically—in some cases as much as 30% in the past four years, according to Avmark Inc., a firm that specializes in valuing aircraft.

The jump in used-plane prices means that airlines such as United, which own most of its fleet, can raise billions by selling planes and leasing them back. United has even more value by virtue of its new plane orders. The delivery options for those jets are now highly attractive assets.

MORE TURBULENCE? Takeover artists also know that there are plenty of institutions that make their money arranging and investing in the many ways to lease and new and used aircraft. Security Pacific, Citicorp, Polaris Aircraft, the financial arms of companies such as Texaco—they all handle aircraft leasing. Bankers Trust Co. syndicated the debt financing for Checchi's Northwest deal, and now it will probably help broker the sale and leasebacks of Northwest's fleet. Bankers Trust and the other firms have created a global market in planes.

Avmark Chairman Morten S. Berntsen has his reservations about this market. It can be "very volatile," he says, "and in a downturn it can become immobile." He remembers the early '80s, when a recession stopped growth in air traffic. Planes lost a third of their price—the price that could meet upcoming noise restrictions, that is. Those that couldn't sell for 90% of their value.

A combination of new federal regulations, recession, and too many planes could still produce a nasty drop in the market for used and new aircraft. Potentially, investors think that the big U.S. airlines are too profitable and worldwide demand for aircraft too great for the bottom to fall out. They also note that even without the pressure of takeovers, airlines such as Delta and American have been leasing more and more of their planes anyway. But by ignoring history, these investors and bankers may be putting themselves in peril.

By James E. Ellis in Chicago, with Christopher Power in New York, Seth Payne in Washington, and bureau reports

CONGRESS, BUSH LOOKED LIKE A PUSHOVER . . .

the President used savvy and luck to dominate the Democrats

When the 101st Congress convened last January, House and Senate Democratic leadership sized up new President George Bush and exchanged knowing smiles. The Republican's campaign strategy of wrapping himself in the flag and Ronald Reagan's mantle offered few clues to his agenda—much less a mandate for action. So the Democrats figured they'd seize the initiative on a host of issues, from mandated employee benefits to a minimum wage boost.

But just seven months after Bush moved into office, Democratic congressional leaders have been humbled by his rising dominance of the policy agenda, although they have scored points by winning several key nominations. Bush

has framed the debate on virtually every major issue, from the budget to the savings and loan bailout.

What's more, when Congress reconvenes in September, Bush still seems likely to be in the driver's seat. His clean-air proposal has won strong bipartisan support. Bush also retains the power and the soaring public-approval ratings to fend off a major tax increase. And a revolt by Sunbelt Democrats could result in legislation cutting the tax rate on capital gains, handing the President a major victory. The same holds true on defense. When Congress finally grapples with wildly differing House and Senate versions of a 1990 military budget, the outcome will look a lot like Bush's Pentagon spending plan. "The

bottom line is that George Bush is playing things out according to his script, not Congress," says Thomas Mann of the Brookings Institution.

How did Bush manage his mastery of a Congress dominated by the opposition party? It was a combination of luck, skills acquired in his long apprenticeship in Washington, and hard work. His biggest windfall was the political paralysis of House Democrats. First they were hobbled by a lengthy fight over a 51% pay raise. Then came the crusher: a four-month ethics controversy that resulted in the agonizing fall of former House Speaker Jim Wright of Texas and former Majority Whip Tony Coelho of California. Stunned by the imbroglio, Democrats "lost control," says William Schneider of the American Enterprise Institute. The resulting chaos "made Bush look good by comparison," says one White House aide.

STRUGGLING. It's just becoming clear how high a price the Democrats paid for the Wright affair. Although unpopular, Wright was adept at keeping his troops in line. During his downfall, Democrats reverted to their tendency to form fac-

tions, and new Speaker Thomas S. Foley (D-Wash.) is struggling to restore a semblance of order. Says Schneider: "There still is no sense of discipline or an agenda."

Both Foley and Senate Majority Leader George J. Mitchell (D-Me.) oppose a capital-gains tax cut, and they were caught flatfooted by Democratic support for the issue. Discipline evaporated on the House floor in July, when liberals defied the leadership and gutted the Administration's defense budget, handing the GOP a nifty political issue.

Democratic disarray is only one facet of Bush's success. The President has devoted a lot of energy to consulting Hill leaders, using the approach to co-opt many opponents. Perhaps more important, he has refused to frame issues in rigid ideological terms, as Reagan often did. "The fact that the Democrats haven't been able to develop a successful political is-

WHERE THE BIG ISSUES STAND



■ S&L BAILOUT

Bush got all he wanted—and managed to fend off Democratic demands that the full cost of rescuing the thrift industry be included in the federal budget. Chalk this up as a win for Bush



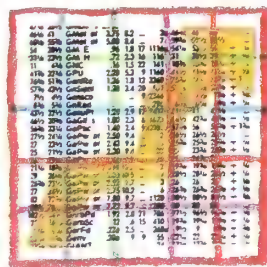
■ CLEAN AIR

Bush's proposal was well received, but Democrats may toughen auto emissions rules. The bill likely won't be enacted before 1990, but it has top priority with Democrats



■ EDUCATION

Bush's education bill is ready for Senate action. It includes more money for magnet schools, special excellence awards, and incentives for schools to enhance performance. The cost: \$450 million



■ CAPITAL GAINS

Despite opposition from Democratic leaders, some cut in capital-gains taxes could pass this year. Bush has House Dems on the run, but could face a fight in the normally pro-business Senate



■ CHILD CARE

This promises to be the major social policy bill to be enacted by yearend. Bush and Congress are at odds over the approach. Compromise will raise federal aid by as much as \$2 billion a year



■ DRUG POLICY

Drug czar William H. Bennett will soon propose a plan to fight drug use and trafficking. Democrats are likely to make their own proposals. Don't expect action until just before 1990 elections

Top of the News

sue against us is an indication that the policy [of cooperation] has succeeded," says a senior White House official.

'RHETORIC.' Democratic leaders have reacted to Bush's wooing with a mixture of admiration and frustration. Mitchell praises him for reaching out to Congress and redressing "the failed policies of the Reagan Administration." Yet he blasts Bush for failing to match his "lofty rhetoric" on such issues as the environment and education with cold cash.

But Bush's version of glasnost will be tested again this fall as Democrats try to reassess themselves. For starters,

they vow to recast Bush's clean-air bill into a costlier and more ambitious measure. Democrats will push through expensive legislation to boost federal spending for child care (page 37). Senate Labor Committee Chairman Edward M. Kennedy (D-Mass.) will revive efforts to pass a minimum-wage increase.

Friction also looms on the budget front. Although the White House-Hill budget accord was a masterpiece of fiscal legerdemain, Congress must still slash the deficit to \$110 billion to avoid automatic spending cuts. That will lead to more wrestling over a modest reve-

nue bill, and any lingering hard feelings could thwart Bush's plans for a multiyear deal later on.

But no matter how the rest of session turns out, Bush is chalking enough Hill wins to confound his critics—and make Democrats think twice before they again proclaim themselves the masters of the Washington age. It is a town that Bush has proved for years—and he's showing that he knows the byways of power better than most.

By Douglas A. Harbrecht and Richard Fly in Washington, with bureau reports.

RETAILING

NOW SEARS HAS EVERYDAY LOW PROFITS, TOO

Price-cutting and bloated costs have driven earnings down 14%

Shoppers can be a fickle bunch. Take Sears, Roebuck & Co. In March, Sears launched a national ad blitz trumpeting its new, wider array of brand names offered at everyday, supposedly rock-bottom prices. Curious consumers rolled in—and so did the bucks. Sears' first-quarter retailing revenues swelled 12% over the same quarter in 1988, prompting Chairman Edward A. Brennan to proclaim: "Everyday low pricing is an idea whose time has come."

Not so fast. After peaking in March, Sears' sales have headed due south. On Aug. 3, the world's largest retailer disclosed that its same-store sales actually slipped 2.4% in July from the same period last year, while its biggest competitors reported at least modest growth (chart). "It was a crummy month any way you look at it," says Richard Nelson, analyst at Duff & Phelps Inc.

More bad news may be in the offing. The novelty appeal of the "new Sears" is fading just as consumers have turned skittish about buying major durable goods. Those big-ticket, low-margin items—refrigerators, washers, and dryers—account for about 25% of Sears' merchandise sales. They also help make up for the retailer's relatively scant business in higher-margin areas such as women's apparel, footwear, and cosmetics. Other retailers, notably J. C. Penney Co., have jettisoned many hard-goods lines and emphasized apparel, whose sales tend to hold up better during economic slowdowns.

Problems in Sears' sales mix are putting Brennan's new strategy in doubt. With the retailer's bloated cost structure, the price-slashing gambit has left margins razor-thin. The result: Sears' retail earnings, excluding accounting

changes, slid 14% during the second quarter, to \$136 million on sales of \$1.1 billion, according to an estimate by A. Edwards & Sons Inc.

Those are short-term adjustments, insists a Sears spokeswoman. Brennan's blueprint, she says, will eventually reverse Sears' market share and earnings slide. Meanwhile, Brennan will stay the course, streamlining Sears' \$30.2 billion merchandise group and cutting costs mightily. But the pressure on margins won't let up anytime soon. Edwards estimates Sears' pretax margins this year will run about 3.7%—compared with some 7% for J. C. Penney and about 6% for Wal-Mart Stores Inc.

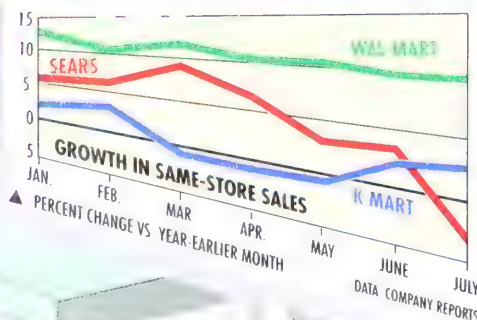
SNAZZY 'SUPERSTORES.' The pricing strategy alone was never expected to generate a sales bonanza. Rather, Brennan was counting on sexy new brand names and spruced-up stores to lend some pizzazz to Sears' image. At one of its recently opened stores in Chicago, shoppers confronted a collection of snazzy new "superstore" formats. At the Brand Central department, there's a neatly stacked array of Sony, General Electric, and Shiba electronic gear.

Sears' competitors aren't ignoring those changes. Highland Superstores Inc., a national chain of appliance count outlets, has responded to Sears' Brand Central rollout with hard-hitting comparative TV ads stating that Sears' "everyday low prices" still hover above those of Highland's. "We are doing everything we can" to counter the challenge, says Ira Mondry, Highland's executive vice-president.

Those determined rivals, as well as Sears' own second-quarter results, send a clear message: It's crunch time. Says one Sears store manager just back from a sales conference at headquarters: "The pressure to perform is definitely on us." And the key to performance lies in keeping the attention of ever-wavering consumers. Otherwise, the new Sears may start looking a lot like the old one.

By Brian Bremner in Chicago

SEARS' FAST START IS FADING



HOW THE FUTURES MARKETS CAN CLIMB BACK OUT OF THE PITS

ays before the federal government indicted 46 commodities traders, defense lawyers in Chicago groused at a public forum that the federal government was overzealously prosecuting "parking ticket" violations. Dennis J. O'Connell, chief of enforcement for the Commodity Futures Trading Commission, was compelled to remind them that trading after the closing bell and other seemingly minor offenses are, after all, against the law.

But since Aug. 2, when the indictments were unveiled, the law is getting more respect on the trading floors

of Chicago's futures markets. With three guilty pleas already entered and dozens of indictments expected for crimes that add up to stealing profits from customers, that's understandable. Now, it's time to go to Congress, the regulators at the CFTC, the exchanges, and the traders themselves to make sure that the law's effectiveness does not return to the pits.

NECESSARY CURES. For starters, Congress should overhaul the CFTC by doubling its personnel staff and its \$7 million budget. The daily trading volume of about 260 million contracts is more than triple its 1980 level, CFTC resources have barely changed. Also, permanent congressional authorization would end the quadrennial renewal in which the CFTC must defend itself on the exchanges to support its bid for a new lease on life from Congress. Such a move also would stop the periodic calls to merge the CFTC with the Securities & Exchange Commission, a merger that would blur the CFTC's focus on futures. Moreover, reform schemes divert attention from the promising reforms.

Congress must be careful not to kill the patient, though—and several remedies of dubious value already are being peddled on the Hill. Take the proposal to let the CFTC place undercover agents on the trading floors. The agency has

initiated only two successful probes of any import in the last decade. That alone suggests that the CFTC has trouble using its overt investigative powers, never mind covert ones. With a bigger budget, the CFTC could stop poor-mouthing, start working on high-impact cases, and rightly leave the cloak-and-dagger tactics to the FBI.

Then there's a recent proposal by Representative Glenn English (D-Okla.) that deserves an early death. English's plan would delay approval of new contracts until the exchanges can track the path of every trade, from the cus-

tomers to the trading pit and back, down to the nearest minute. The objective of producing a precise audit trail is worthwhile. But English's threat of stalling new-product development is equivalent to telling Detroit to wait on designing better cars until the old models get fixed.

As for the exchanges, they've got plenty to do to repair their reputations as fair and orderly markets, let alone markets that can regulate themselves. Former U. S. Senator Thomas Eagleton (D-Mo.), currently a board member of the Chicago Mercantile Exchange, calls self-regulation "the Chicago mirage." Unfortunately, Eagleton points out, the terms "self-regulation" and "non-

regulation" can often be interchanged.

If the Merc and the Chicago Board of Trade want to change that perception, here's one place to start: Eliminate virtually all "dual trading," the conflict-of-interest-laden practice in which brokers handle clients' trades and their own at once. Too often, dual trading results in broker-traders taking advantage of customers to enrich their own account. In newer contracts, dual trading may be needed to promote liquidity. But in contracts such as soybean, Treasury-bond, or foreign-currency futures where healthy trading volume flows, dual trading is only a temptation to cheat.

STONE AGE. The exchanges should not stop there. They should also consider dumping the Stone Age pencil-and-trading-card system to record trades. The replacement: portable electronic trade recorders held by each trader in the pits. Exchange leaders lament that they can't get a manufacturer to develop such a device for a customer base of only 7,500 Chicago traders. Yet they now spend millions on computers to speed the flow of customer orders to the trading floors. To boost public investors' confidence, they should fund development of a completely automated system.

And as soon as technologically feasible, the exchanges should pit their cherished "open outcry" trading style against the computerized trading systems they are developing but currently limiting to after-hours use. By letting the computerized systems run around the clock, traders on the floors would be encouraged to give customers the best possible price, lest a simultaneous trade executed by computer provide a better deal.

That is, after all, what efficient and liquid markets should do: provide the fairest prices. Until they do, reform in the futures markets won't be complete.

REFORMING THE FUTURES MARKETS: WHAT TO DO...

- ▶ Start round-the-clock computerized trading
- ▶ Give the CFTC permanent authorization and boost its budget and enforcement staff
- ▶ Eliminate most forms of dual trading

...AND WHAT NOT TO DO

- ▶ Don't give the CFTC power to conduct undercover investigations
- ▶ Don't merge the CFTC into the SEC
- ▶ Don't prevent or delay the introduction of new trading products

AND IN THIS CORNER COIN BOX: AN ALL-SPORTS DAILY

The National has ambitious plans—and many heavyweight rivals

Mexican media baron Emilio Azcárraga Milmo is batting 0 for 3. The slump started in 1986, when the Federal Communications Commission invoked a rule that prohibits foreigners from owning U.S. television stations. The regulators ordered Azcárraga to unload his controlling interest in Univision Holdings Inc.—the largest Spanish-language TV network in the U.S. He reluctantly sold Univision's 10 TV stations and programming to Hallmark Cards Inc. for \$620 million. Then, last year, Azcárraga lost out in two nonmedia bids, one for a copper mine, Mexicana de Cobre, the second for airline Mexicana de Aviación.

But last year Azcárraga—the majority owner of Mexico's private TV monopoly, Televisa—came up with an idea that he thinks will be a hit. He's launching an all-sports tabloid, *The National*, in the U.S. It's scheduled to hit the stands next January with about 250,000 copies a day, Sunday through Friday, in New York, Chicago, and Los Angeles. *The National* won't go national until much later.

Azcárraga is putting up most of the money for the risky venture. *The National* could cost about \$100 million over five years before it makes a profit, says Peter O. Price, who is publisher and president of the paper. That estimate may be optimistic if local dailies and the national *USA Today* fight back by beefing up their own sports staffs, says John Morton, a newspaper analyst at Lynch, Jones & Ryan. The nationally distributed Gannett Co. flagship could well prove to be *The National*'s toughest foe, especially since many readers buy *USA Today* mainly for its extensive, statistics-laden sports coverage.

BEFORE DAWN. Yet Price is confident that devoted sports fans will pay 50¢ a day for a colorful tabloid with 32 to 48 pages of coverage that, he says, no daily will be able to match. Using sophisticated satellite technology, *The National* will include stories and photos of late-



POET AND PITCHMAN: EDITOR DEFORD AND PUBLISHER PRICE ARE AIMING FOR A THREE-CITY LAUNCH IN 1990

night games, national news, and investigative reports. It will also cover local events in each of its markets—which, in three years, could expand to 25 cities. Editor Frank Deford, a 27-year veteran of *Sports Illustrated*, is recruiting 100 journalists for the launch. Meanwhile, Price is talking to six newspaper distributors—including Dow Jones & Co., publisher of *The Wall Street Journal*—about deals that will put his paper on newsstands and in coin boxes before dawn each day.

Price and Azcárraga are confident that makers of automobiles, sportswear, and men's consumer products will gladly pay to see their ads play in *The National*. Rates aren't set yet, but Price says a full-page color ad, bought on a one-shot basis, will cost under \$10,000. *The Nation-*

al is likely to offer substantial discounts from that amount: Price's highest bid would require advertisers to pay more to reach each 1,000 readers than they would over to either of the paper's chief weekly competitors, *Sports Illustrated* and *The Sporting News*.

Advertisers like what they hear about *The National* but won't commit to any space until they see a prototype and a rate card—which should be out about a month. "If *The National* has a strong editorial, and it's priced right, then it will make it," says Irwin L. Saatchi, director of print media relations at Saatchi & Saatchi Advertising Worldwide.

The National can expect plenty of support from Azcárraga. The paper represents his English-language debut. The domineering 58-year-old, known as El Tigre, runs a formidable Mexican empire estimated to be worth over \$1 billion. Azcárraga's staff said he was unavailable to speak with *BUSINESS WEEK*.

Televisa is a money machine that could see as much as \$1 billion in sales this year from its worldwide ventures, including an estimated \$350 million from TV ads in Mexico. Televisa also produces 18,000 hours of programming each year and sells its shows around the globe. U.S. cable affiliate, Galavision, handles Televisa fare north of the border.

SHOUTING MATCHES. The Tiger is a newcomer to sports. Azcárraga and Televisa partners own Mexico's best soccer team, Club América, and the historic Azteca Stadium the team plays in. Certainly, perhaps, one of Azcárraga's disappointments in Mexico was a disappointing sports paper, *El Estadio*, a money-losing venture that he sold early this decade.

Azcárraga isn't known for patience or for concern with the delicate business of consensus-building. "Azcárraga insists upon calling the shots, wherever he is," says Raúl Trejo Delarbre, author of two books critical of Televisa. In a country where presidents long commanded servility, one former Televisa writer calls watching shouting matches between Azcárraga and then-President Luis Echeverría.

Price says that he will have a free hand at *The National*. But El Tigre could quickly pounce if it appears the paper is getting in the way of *El Estadio*. For while *The National* will cover sports, and more sports, it's clear that for Azcárraga, the venture is more than just a game.

By Stephen Baker in Mexico City and David L. Sherman in New York



BANKROLLER AZCARRAGA

THE BOSS'S ON LOGS OFF

President Fred Wang couldn't
p Wang Laboratories' long slide

By 6 p.m. on Aug. 7, all but one of Wang Laboratories' 11 directors had gathered in the Lincoln (Mass.) home of company founder and An Wang. He convened the meeting on his first day of work since his July 14 resignation to present the directors with the resignation of his son Fred, the company's 38-year-old president.

The drastic step came not a moment too soon. Observes Barry Willman, an analyst at Sanford C. Bernstein & Co.: "It was not a total surprise." Two weeks earlier, Wang posted a \$424 million loss for the first fiscal year that cut tangible net worth below the level required by bank loan agreements. Since then, Wang has been trying to come to terms with the consortium of eight banks, led by Bank of Boston, that funds its revolving credit agreement. And in the past month, bankers have been swarming over the company's Lowell (Mass.) headquarters. One insider says that the bankers had to approve even the latest earnings report before it was sent out.

The company denies rumors that the banks forced Fred Wang's resignation.



**FRED WANG: THE COMPANY DENIES RUMORS
THAT ITS BANKERS FORCED HIS RESIGNATION**

In any case, the move may placate them and signal the company's reorganization. Indeed, Wang stock rebounded sharply, to 7½, following the announcement that longtime Wang executive Harry Chou would take over while a three-man search committee looks for a successor.

Fred Wang's exit ends an uneasy three-year balancing act with his prominent father. Publicly, An Wang declared that he hoped a Wang dynasty would run the company, which prompted a cad-

re of managers to leave once Fred's succession was established. But former employees say Fred was often overruled, even after his father nominally handed him the reins by naming him president in 1986. An Wang was less interested than Fred in PCs, so the company entered the market late. More recently, the elder Wang vetoed the sale of the money-losing Intecom telecommunications unit. It is now formally on the block.

LONG STRUGGLE. Also to blame: Too-rosy forecasts from Wang's marketing staff, which, says one source, encouraged the company last year to take on debt in hopes of demand that never materialized. Instead, domestic and international sales last year fell 5%, while operating costs ballooned. The results cap Wang's long struggle against weak demand for its minicomputers and margin pressure on its PCs.

Layoffs and asset sales should cut costs sharply. But Wang's cash crunch is far from over. In the past year, debt has skyrocketed, from \$660 million to a staggering \$962 million—\$255.2 million of it due at the end of September.

It got so tight that Wang in the last quarter was forced to incur a \$30 million tax liability to repatriate as much as \$120 million of accumulated earnings at its Taiwan unit. "The company has been financing its negative cash flow with significant short-term debt," says Willman. And that's why Wang's fate now lies in the banks' hands, not Wang's.

By Laura Jereski in Boston

AN UTC FIX WHAT IT CAN'T SELL?

United Technologies Corp. has finally taken the hint. One after another, potential buyers have backed over its radar division, Norden Systems Inc., then walked away. On Aug. 8, UTC pulled the beleaguered unit off the block and promised to fix things on its own.

The promise will be hard to keep. Norden has lost key contracts in its specialty, air-to-ground radar technology. The final straw for such possible buyers as Litton Industries Inc. was in April. Citing "nonperformance," General Dynamics Corp. took Norden off a \$114 million subcontract to develop radar for the A12, an advanced tactical fighter dubbed "Son of Stealth."

The dispute is now a matter for the courts. A Norden official says GD ended the business to Westinghouse

Electric Corp. to avoid paying for \$100 million in costs incurred when specifications changed. GD and Westinghouse officials declined to comment.

Losing the A12 contract only adds to the flood of red ink. UTC, with income of \$659.1 million on \$18 billion in sales in 1988, has taken charges totaling nearly \$300 million from Norden since 1986. Losses this year could top \$100 million. One result: The work force, which once totaled 5,000, has been cut to 3,400. And the senior-executive cadre has been reduced from 18 to just 4.

CHOICES. The bare-bones staff needs more work. Norden has only two major programs left. Joint STARS, an Air Force radar program, detects enemy positions and relays the data to Army troops on the ground. The company also is working on a project for Israel. But Norden is losing money on developing both systems. And production could be limited on both, making costs tough to recoup.

Little wonder UTC couldn't find a buyer. The A12 radar cost about \$200 million to develop. Its loss tore a giant hole in Norden's future revenues. And

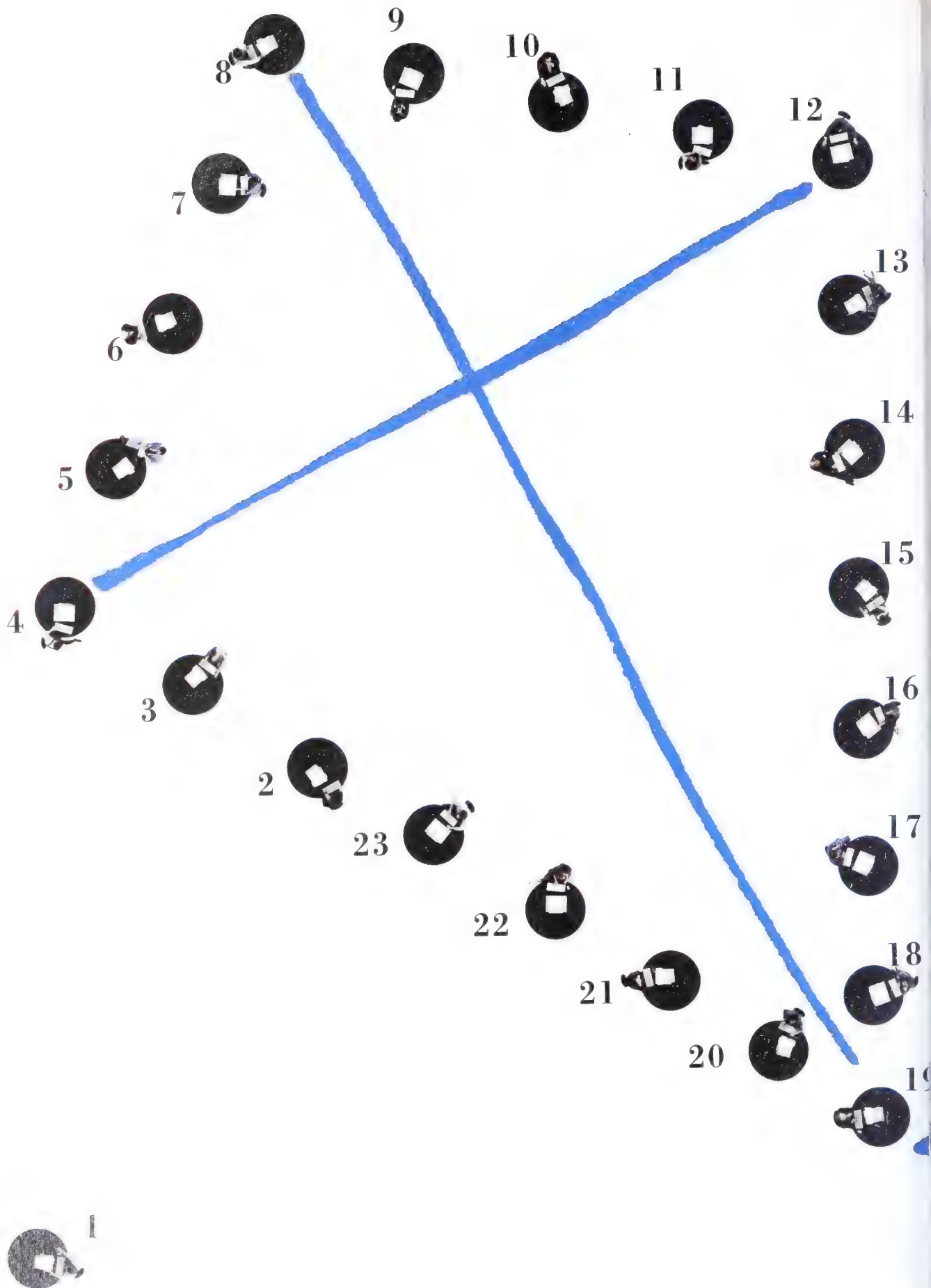
UTC refused to pick up a share of the company's future losses. As a result, Norden's market value fell from about \$400 million to as low as \$150 million, say analysts. "It got to be a difficult financial equation to solve," says Norden President Edwin D. Decker.

Norden has two alternatives. It can scale down and just sell components for radar units. Or it can upgrade its technology and sell advanced systems that include computer technology and radar. Decker is considering acquisitions to help insulate the company against losses on a single contract.

Meanwhile, says Decker, he'll continue to pare expenses and find new contracts. He hopes for losses this year of only around \$50 million, and he predicts a small profit in 1991. But Arthur E. Wegner, UTC's president for aerospace and defense, says a true turnaround may take three to four years.

For the moment, Decker has to move cautiously. "We don't want to repeat the mistakes of the last couple of years," he says. Any more mistakes and UTC may run out of patience.

By Todd Vogel in Stamford, Conn.



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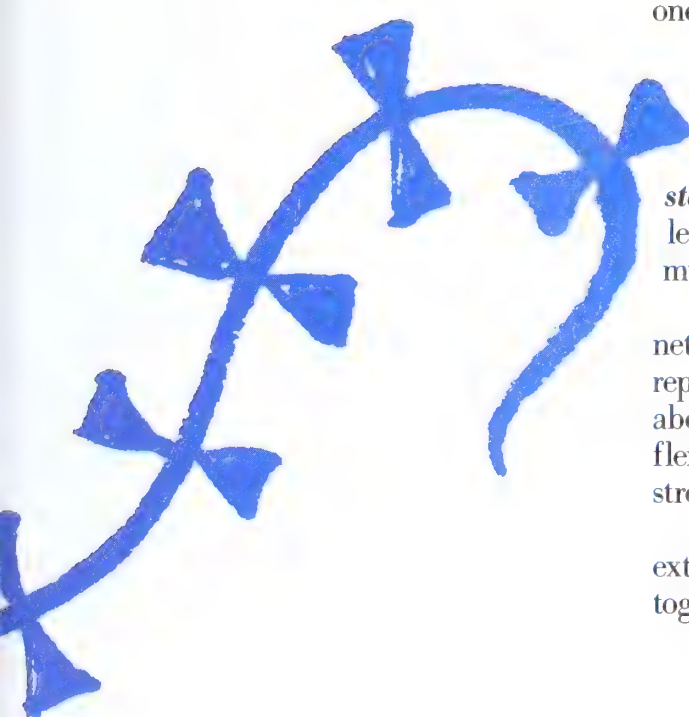
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EDITED BY HARRIS COLLINGWOOD

HP AND SUN GO COURTING OVERSEAS

► In the computer industry, the trick is to get your product to market as fast as possible. That's why Hewlett-Packard, locked in a fierce rivalry with Sun Microsystems, agreed on Aug. 8 to license its Spectrum computer design and chip-processing technology to a unit of South Korea's giant Samsung Group. Samsung will make workstations priced under \$5,000 for both companies to market. In July, HP struck a similar deal with Japan's Hitachi. The pacts, which mark the first time HP has opened up its homegrown technology to others, should cut up to two years off the development cycles of such products.

Sun, meanwhile, is forging alliances of its own. On Aug. 8, it announced that the Netherlands' Philips would use Sun's SPARC chips in its embedded controllers, the tiny computers that issue instructions to larger machines such as automobile engines.

DART DRUG FALLS OFF THE COUNTER

► Another leveraged buyout has hit the skids. On Aug. 8, Dart Drug Stores filed for bankruptcy protection. The Maryland-based chain of 69 drugstores, whose liabilities outstrip its assets by \$30 million, was never able to handle the \$128 million in junk debt it took on in 1984 when the founding Haft family sold it to employees for \$160 million. For the nine months ended July 31, Dart reported losses of \$16.6 million on revenues of \$170 million.

THREE WEDTECH ADVISERS ARE GUILTY

► A federal jury convicted three consultants to Wedtech, the now-defunct South Bronx (N. Y.) defense contractor, of

racketeering and conspiracy charges on Aug. 8. The three—Robert Wallach, a friend of former Attorney General Edwin Meese; Franklin Chinn, Meese's former investment adviser; and Kent London—were accused of taking illegal payments from the company in exchange for exercising their influence with Meese and other Reagan Administration officials.

Wallach faces up to 45 years in prison, Chinn and London up to 40 years. All three could also forfeit the money taken illegally from the company, as well as pay fines equal to twice the loss to Wedtech or \$250,000, whichever is greater. Attorneys for all three men say they will appeal.

EASTERN PILOTS: THE RANKS ARE WAVERING

► Striking pilots at Eastern Air Lines soundly rejected a proposal floated by some union leaders to return to work. The leaders had argued for at least minimal union presence at the new Eastern.

The uncertainty prompted about 120 pilots to cross the picket line on Aug. 7 and 8. That brought the total cross-overs to 535, including 200 management pilots who didn't honor the strike.

Eastern says its reorganization plan, now being considered by creditors, doesn't de-

AND YOU DON'T HAVE TO LET IT BREATHE

In the era of the new sobriety, it was bound to happen. The U.S. has its first water-of-the-month club.

The club, called Class in a Glass, is the brainchild of Stanley Siebenberg, owner of The Water Centre in Edison, N.J. "I'm no different from a wine dealer," he says, "only I'm selling something healthy." If the club catches on, he'll probably make a healthy profit, too. A one-year membership, entitled you to a monthly six-pack of assorted waters from around globe, costs \$350. That's \$4.86 per 26- to 32-ounce bottle. least you won't be quaffing *eau ordinaire*. The first six-pack will probably include cranberry-flavored water from Texas, glacier water from Canada, and mint-flavored water, also from Canada. That last one is "the perfect after-dinner water," says Siebenberg. He adds that all his waters are vetted by the FDA. Who says conspicuous consumption isn't good for you?



pend on the return of striking pilots. The airline was forced to scale back the number of flights initially projected for August but says it will reach 390 flights a day by Aug. 15. The pilots' union maintains that Eastern's plan won't fly.

VITRO HAS A CLEAR SHOT AT ANCHOR GLASS

► Vitro, the huge Mexican glassmaker, has taken the prime takeover bait represented by Anchor Glass Container. On Aug. 8, Vitro offered \$280 million or \$20 a share for Anchor and said it would close up to three of Anchor's

factories if the tender succeeded. Anchor won't comment on the offer. Its stock price, which rose from 9 to 12 in a few days before the announcement, jumped to 19.

Anchor doubled its size, acquiring a competitor in 1987 but watched its debt balloon to \$450 million. Moreover, stiff competition kept prices down as Anchor's modernization costs were rising. For the first six months, Anchor lost \$10 million, compared with a net income of \$1.8 million the same period last year.

WELL, THEY COULD MAKE BOATING SHOES

► Sneakers and powerboats: Is it synergy? Reebok International says yes. The \$1.8-billion shoemaker will buy Group's Boston Whaler subsidiary for \$42 million in cash.

Reebok admits boat manufacture is pretty far afield. And the small-boat market has been sluggish for several years: Boston Whaler recorded a loss last year on revenues of about \$60 million, down 10% from 1988, it says. Reebok itself has seen its own sales tail off, with profits for the first six months of this year down 3%.





Good news travels faster.

Introducing the New V6 Hyundai Sonata.

Since the day it was introduced, the midsize Sonata from Hyundai has been generating the kind of press most cars simply dream about.

And now, it is giving the editors of respected automotive publications even more to write about.

Introducing an engine so impressive, it's sure to make headlines. This optional 3.0-liter overhead-cam V6 is Hyundai's most advanced power plant to date. Along with boasting

142 horsepower, it offers multi-point electronic fuel injection for smooth, responsive performance and greater fuel efficiency.

The powerful Sonata has what it takes to go head to head with Camry. And the matchup against Accord is no contest; it doesn't even offer a V6.

We're also glad to report that the Sonata GLS comes equipped with a well-appointed interior that includes power windows and door locks, a tilt steering wheel, cruise control, power steering, and a 6-speaker AM/FM stereo cassette system. Plus, plenty

of passenger room to enjoy it.

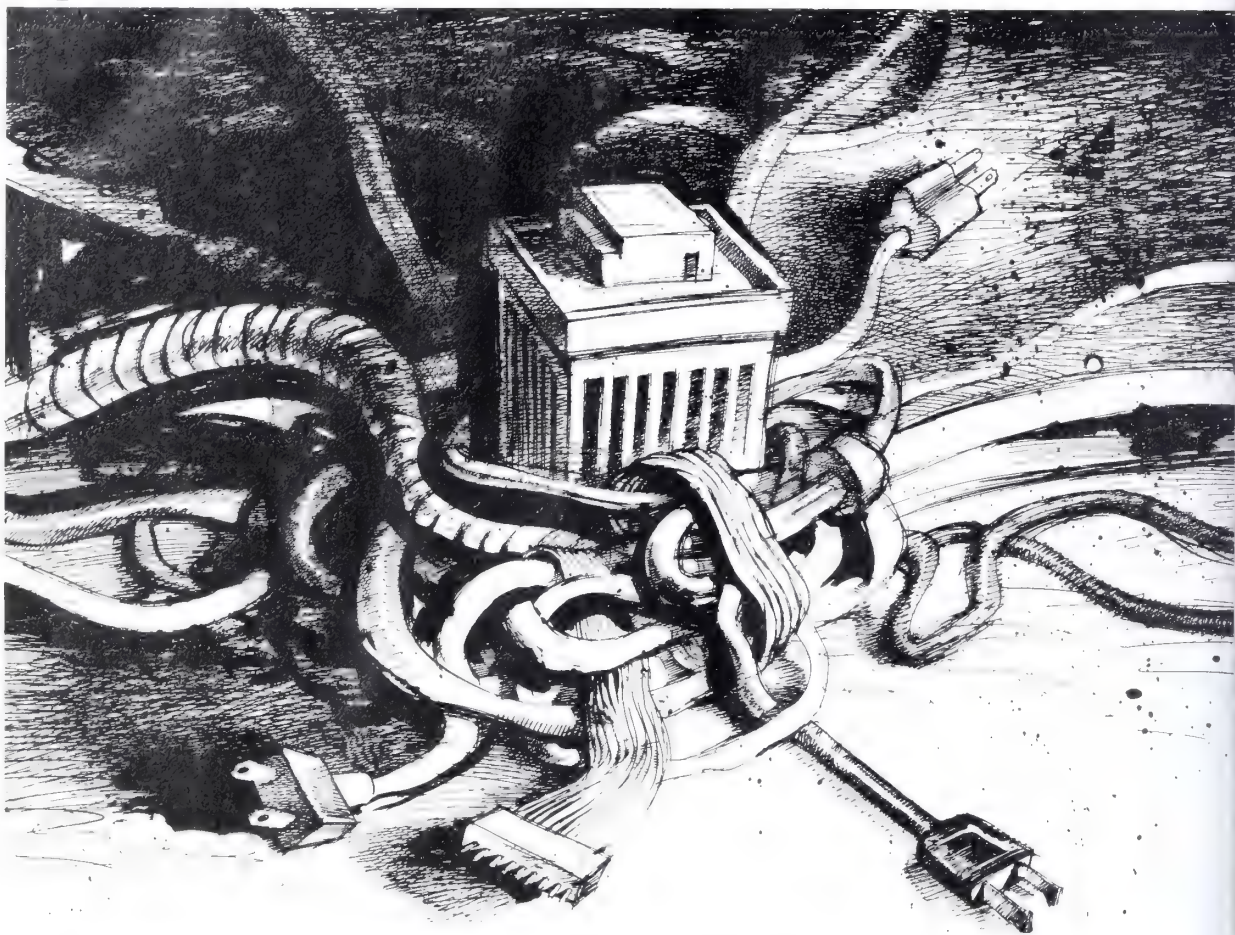
Like any good story, we saved the best news for last. Starting at just \$9695*, the Sonata is several thousand dollars** less than an Accord or Camry. So now that you've read all about it, call 1-800-826-CARS for the location of your nearest Hyundai dealer.

Because a story like this is worth following up on.

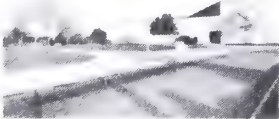
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JOHNSON
CONTROLS

THE RICH AREN'T THE ONLY ONES WHO MAY GET A TAX BREAK

went largely unnoticed in the jockeying over cutting capital-gains taxes. But just before Congress broke for the August recess, the House Ways & Means Committee approved one of the most important measures in years to help the nation's working poor. Voting behind closed doors, the committee pushed through a major expansion of the earned-income credit, a widely praised subsidy for low-income families. The move is significant for several reasons—including its timing. The proposal, sponsored by Representatives Thomas J. Downey (D-N.Y.) and George Miller (D-Calif.), would nearly double the cost of the \$5.5 billion-a-year tax credit. It signals the congressional Democrats' drive to regain the social-policy initiative from Republicans, who have been leading the charge to cut tax credits. It may also set the stage for an even bigger social welfare package later this year—one that will test President Bush's "kinder, gentler" rhetoric. "For the first time in eight years, we will start to give something back to the people in this country," Miller declares.

STUFF. Poverty experts consider the earned-income credit a potent subsidy for the working poor. Currently, a family earning \$6,500 a year receives a credit of \$910. Under the Ways & Means measure, a family with one child earning \$10,000 would get a \$1,217 credit. A family with two children would get \$1,504. Families with pre-schoolers would get an additional \$430. Many eligible families have no tax liability, so they would get a government check. Opponents like the tax credit because it helps working parents, encourages families to stay together, and increases federal aid to low-income families. Says Robert Greenstein, director of the Center on Budget & Policy Priorities: "Expanding the earned-income credit is one of the most effective antipoverty strategies." Conservatives, for their part, are drawn to the proposal because it does not require a government bureaucracy, represents an alternative to welfare, and doesn't sock employers. President Bush had proposed an income-tax credit that was only half the size of the Democratic version.



SPONSOR DOWNEY

The Ways & Means bill was almost an afterthought. For months, committee members had been crafting a tax plan covering child care and the working poor, although action wasn't expected until next year. But in July, Chairman Dan Rostenkowski (D-Ill.) saw a chance for a trade: Democrats would agree to cut taxes on capital gains as long as the Administration went along with an expanded child care bill.

TIT FOR TAT. The White House has agreed to the trade-off. But before the proposal becomes law, it must thread its way through the complex politics of child care. Most Democrats like the tax credit, but their primary focus this year is on broad child care legislation. Democratic leaders don't want the earned-income credit to undermine efforts to expand day care.

The Ways & Means bill includes money for child care, but liberal Democrats, backed by labor, don't think it's enough. They favor an alternative proposed by House Education & Labor Committee Chairman Augustus F. Hawkins (D-Calif.) "There's a great need for child care, and it can't be done with a tax credit," says AFL-CIO lobbyist Robert McGlotten.

The credit may help the White House finesse another thorny social issue: Democrats' plans for a minimum-wage hike. President Bush has vetoed a bill to raise the wage, now at \$3.35 an hour, to \$4.55. Democrats may well settle for an increase to \$4.25—provided that it is coupled with a tax credit. The Ways & Means proposal may give the White House and congressional Democrats the cover they need for a compromise.

Although the Ways & Means plan could be altered on the way to passage, support for the idea from both conservatives and liberals seems to indicate that some expansion of the credit is on the way. It is not a new idea. Years ago, Senator Russell B. Long (D-La.) devised it as a bonus for the poor. Now, Democrats are rediscovering the virtue in the scheme, and the upshot may be that rare development in Washington: a program that almost everyone agrees works as advertised.

By Susan B. Garland and Howard Gleckman

LEGAL WRAPUP

LEGAL
a blow to defense contractors, the Justice Dept. has resolved an inter-dispute by deciding to support whistleblower suits under the False Claims Act. Justice's Civil Div., Nor-park Corp., and Litton Systems Inc. argued that hundreds of cases against defense contractors should be thrown out. The reason: Citizens who sue the suits on the government's behalf aren't injured and therefore can't sue. But Solicitor General Kenneth W. Starr, siding with Criminal Division lawyers, has told Justice attorneys to argue in a Litton case that the cases should be thrown out—25% of

the total—are constitutional. He told them to take no position on cases Justice chooses not to join.

TAXES

In the capital-gains-tax debate, attention has been focused on the battle between President Bush, who prefers cutting the tax rate, and House Ways & Means Chairman Dan Rostenkowski (D-Ill.), who wants to index gains for inflation. Now, Senate Finance Committee Chairman Lloyd Bentsen (D-Tex.) is weighing in—and siding with the White House. But unlike Bush, he wants a permanent rate cut, not a temporary one to boost revenue, and new taxes on the beneficiaries.

HOUSING

Is the Federal Housing Administration in better shape than most people think? Based on data reviewed so far in the scandal at the Housing & Urban Development Dept., the FHA faces losses that could exceed \$1 billion—a big chunk of its \$2.6 billion reserve. But the Mortgage Bankers Assn. says the reserve should be \$940 million larger. The group says accounting rules let the FHA recognize insurance premium income faster because its losses are piling up faster. Concerns about the FHA's health could block expansion of its mortgage powers—and with it more business for mortgage bankers.

IS RENAULT'S NEW ENGINE BUILT FOR THE LONG HAUL?

Raymond Levy has it revved up—but 1992, the Japanese, and restive unions lie ahead

Sitting at his desk in Paris, Raymond H. Levy has been calmly discussing the future of Renault, the big state-owned French auto maker that he has run for nearly three years. Suddenly, a bolt of anger flushes his intense, hawkish face. Levy lunges forward and pounds his fist on his desk. "I will never take them back!" he shouts. "Never! Would you like to make a bet?"

Hair-trigger anger is a Levy trademark. And here's what sets him off these days: The suggestion that he'll succumb to the demands of Renault's biggest union, the Confédération Générale du Travail, and reinstate 10 workers who were fired in 1986 after a violent protest over layoffs.

PROFIT CULTURE. The 10 workers have become France's most volatile labor issue. For Levy, the case is a test of his freedom to continue transforming France's largest company, with \$25 billion in sales, from a government-run social welfare agency into an independent, profit-oriented machine. He has pushed Renault a long way down that road—laying off 30,000 workers, trimming debt, closing plants, and selling off subsidiaries, including American Motors Corp. Now, the question is whether Renault's brusque, autocratic boss can keep its turnaround revving.

Levy's new profit culture is critical for Renault. Like Europe's five other mass-market carmakers—Volkswagen, Fiat, Ford Motor, General Motors, and Peugeot—Renault faces a daunting new challenge: the Japanese. European integration in 1992—plus a saturated U.S. market—are luring Japanese auto makers to ship more cars to Europe and build factories there. If Levy can fight the Japanese as successfully as he has transformed his company's culture, he will have ensured Renault's survival.

However, Levy has worked most of his turnaround in a superhot European car market, note some analysts, and may have a hard time keeping perfor-

mance up when demand cools. The next few years will tell whether Renault can stand on its own feet as a profit-making enterprise. If it can't, the government might give up on Renault's experiment in autonomy and try to engineer a merger with the country's other major car-

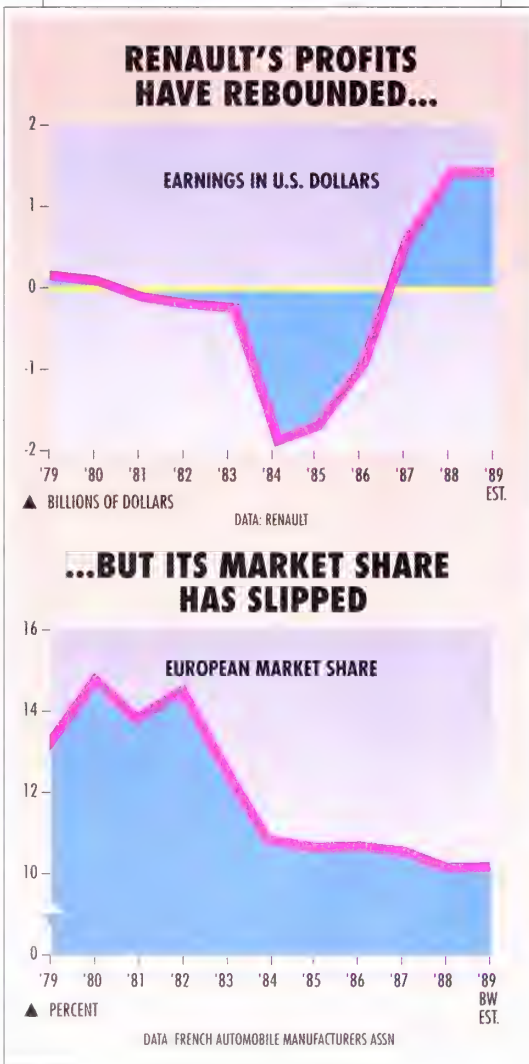
only 3.6% of their cars. The southern markets are the most protected: Japanese imports in France are now limited to 3% of the market, even less in Italy and Spain. Although the European Community is likely to set quotas on Japanese exports—perhaps 10% of the market—the impact of the increase on Renault and others could be devastating. Renault will lose ground in its stronghold, since the Japanese excel in inexpensive models that southern Europe buys.

To stay in the race against the Japanese, Levy wants to sign more partners to build cars and major components, helping to bring down production costs. Chrysler is one possible ally: Renault builds engines for the U.S. company, and the two plan to develop a new utility vehicle. Renault's state ties could turn off some partners—including the Japanese. Levy has already talked with Subaru about building a small-car plant in France. But Renault unionists are wary of the Japanese and are certain to oppose a partnership.

Added to the pressure from Japanese carmakers, Levy still has work to do at headquarters. He is struggling under a heavier debt load than any of Renault's European rivals. Renault has slashed debt by \$6.3 billion since 1985, thanks partly to debt forgiveness by the government. But the company still owes a fat \$7 billion, nearly double equity capital. Debt service cost Renault nearly \$500 million last year.

MACK MIGHT. To help wipe out Renault's IOUs, French banks may take a minority stake in its truck unit. Funds for investment in product development aren't lacking now, but Levy worries he'll miss a good buy later. Renault is happy with its 45% share of U.S. truckmaker Mack Trucks Inc. and might consider buying the rest—if it had the money. But Renault has no stock swap for takeovers. "That's a handicap," says Levy, who would like to see Renault partially privatized.

Another big concern for Levy is improving Renault's productivity. He



maker, Peugeot, to guarantee France's place on the European auto scene.

Renault looks particularly vulnerable because it has high debt and its sales are strongest in southern Europe. While it has 19% of the Spanish market, for example, Renault sells West Germans

dy raised it substantially. Executives production costs now about the same European rivals but ed Japanese costs 0% to 25%. Japa- plants in Europe be even more effi- because of new fa- es and low-paid g workers. Levy d clearly love to his expensive, 60- old plant in the suburb of Billan- . But unions prom- bitter fight.

ll, the days of Re- as a full-employ- program are com- o a close. France is ast country in Eu- to push its auto in- y out of the government nest. Over past decade, Britain has sold off r Group PLC, Italy has sold Alfa eo, and West Germany has cut its e in Volkswagen from 40% to 16%. now, France's Socialist rulers don't sell even a minority stake in Re- , so much a part of the public weal- its legal status is akin to a state ey. Still, Paris aims to erode that s. Last year, it added a clause to ult's corporate charter allowing the any to go bankrupt.

JUSTES? "I do essentially what I says Levy. "The government im- s nothing." Indeed, Renault's boss, s an earthy, impatient, and some- cocky manager who likes things his way. He speaks his mind, often ude language that detractors call coming for the head of France's company. Shortly after he took Levy told journalists that his Re- sedan, a top-of-the-line R25, was so y built that it went in for repairs hly. Touring a plant, Levy told ers that if quality didn't improve, acility would disappear. Sloppiness ges him. Last year, he fired off a criticizing managers' memos for ungrammatical French, calling it ark of disrespect toward me."

t Levy, the son of Greek immi- s, also has a super-sharp mind, ed in the best French schools and at achusetts Institute of Technology, e he earned a master's degree in ar physics. His perfectionist bent es nicely with a critical Renault to overcome an image for so-so of uncertain workmanship. "Our e was founded on volume," says "We've shifted it to profit. Now, I to move it toward quality." He "That's a very long job."

strategy before Levy arrived was



LEVY: TOUGH AND IRASCIBLE

to buy market share with low prices to achieve its basic goal: maximum employment. In 1982, it managed to become Europe's top-selling brand, with 14.6% of the market. Yet it lost money. Now, market share has plunged to 10%, and Renault ranks sixth among six major European manufacturers. Profits, however, are strong (charts).

Renault's products, too, are stronger. "I think their fit and finish is still not as good as ours, but their quality is definitely up," says N. Victor Dial, marketing vice-president for Peu-

geot. Levy gets a lot of the credit. Last year, for example, managers told him they could meet a June launch target for the new R19 compact sedan, even though quality would suffer. Instead,

Levy postponed the launch until September so engineers could fix problems.

Levy knew he couldn't afford to see the R19 stall. It is the first of several models Renault will show to update its aging lineup. Critics like the R19's handling compared with previous cars. It has been selling well in West Germany, an important market to balance Renault's southern exposure. But like earlier Renaults, the R19 is unexciting and could have a short shelf life, say some analysts. "Renault has to do a lot of marketing work to build its image," says John K. Lawson, auto analyst at Nomura Research Institute in London. What product image does Levy want? "Cars that aren't necessarily high performance," he says, "but are spacious, comfortable, agreeable to spend time in."

Renault's feisty chairman may have to do better than that to keep car buyers out of Japanese showrooms. But at least Levy has Renault heading down the right side of the road. If he can keep peace with labor and find industrial allies, he has a good chance of keeping his cars cruising along Europe's highways.

By Stewart Toy in Paris

JAPAN

THE JAPANESE AREN'T FLOCKING TO THIS BOUTIQUE—YET

Nomura-Wasserella is starting slow, but neither partner is fazed

Japan's clubby financial industry was taken aback last year when New York takeover superstar Wasserstein, Perella & Co. teamed up with its 20% owner, Nomura Securities Co., to launch a merger boutique in Tokyo. In short order, the new dealmakers were raising eyebrows again with their no-holds-barred style. But Tokyo also has been teaching the New York sharpshooters a few things—some of them unpleasant.

Since last fall, Nomura Wasserstein Perella Co. (NWP), as the joint venture is known, has assembled about a dozen mergers, joint ventures, and other deals in Japan. It has helped several U.S. companies sell subsidiaries to the Japanese and has plotted defenses for Japanese companies under attack by raiders. But despite the rising tide of mergers in Japan and the firm's easy



WASSERELLA'S MYERSON: "THIS IS A 5- OR 10-YEAR PROJECT"

access to corporations with close ties to Nomura, much of NWP's business has been small potatoes. Several of its transactions have been worth less than \$1 million, far too puny to generate much in the way of fees. And some insiders concede that NWP's move into big-time transpacific dealmaking has been consid-



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erably slower than originally anticipated.

Still, neither partner is fazed. "We're not looking toward a short-term horizon," says Toby S. Myerson, a Wasserella managing director who is second-in-command at NWP. "This is a 5- or 10-year project." He also hints that some Japanese clients soon may announce a few U.S. acquisitions worth more than \$1 billion apiece.

TOUGH DEFENSE. NWP is best known for its headline-grabbing defense tactics. In June, NWP helped Koito Manufacturing Co. turn aside T. Boone Pickens Jr.'s bid to force his way onto the company's board after buying a 20% stake in the auto-parts maker. "With that defense, the full strength of this joint venture became clear," said NWP President Mitsuo Goto shortly afterward. But just a month later, NWP suffered a setback when a court blocked its move to defend two supermarket chains from raids by

real estate developer Shuwa Corp. The court objected to NWP's attempt to have the chains exchange blocks of each other's shares at a fraction of their market value. With his high-profile affiliate thus in a pickle, Nomura President Yoshihisa Tabuchi offered to mediate between Shuwa and the retailers. But that may indicate Tabuchi is conceding defeat for NWP. Taking matters into his own hands, he may soon arrange for someone to buy Shuwa's shares.

NWP has had an easier time selling U.S. corporate assets. In July, it arranged the \$250 million sale to Kyocera Corp. of an electronic equipment maker owned by Wickes Cos.—itself part-owned by Wasserstein Perella. Six months earlier, Goto helped defend Shaklee Corp. against raider Irwin Jacobs by arranging the sale of Shaklee's Japanese subsidiary to Yamanouchi Pharmaceutical Co. for \$350 million. But

even as Goto was celebrating the successful archrival Sumitomo Bank was striking back. Sumitomo, Yamanouchi's main bank and a large stockholder in the company, urged the pharmaceutical concern to finish the job by purchasing the assets of Shaklee as well. It did just that in May, for \$392 million.

Despite the public setbacks, Nomura's role as adviser to so many companies guarantees NWP a steady flow of deals. And Nomura executives admit that they still lack the savvy Wasserstein Perella provides. "They're totally expert, we're totally amateur," says NWP General Manager Masaharu Iwasa. Over time that may change. Japanese NWP staffs posted to New York and London may help Nomura break into mergers on its own. But for now, expect Wasserstein's Tokyo cousin to keep making waves—and headlines—across the Pacific.

By Ted Holden in Tokyo

COMPUTERS

IBM CLONES A STRATEGY FROM THE CLONEMAKERS

Its new line of products will mimic Fujitsu and Hitachi machines

For years, Big Blue watched heavyweights Fujitsu and Hitachi take away customers in Japan by selling their IBM-compatible mainframes at cheaper prices. Now, the U.S. giant has decided to play the same game. It's re-engineering its mainframes to mimic Fujitsu's and Hitachi's machines, which together command 44% of the Japanese market. Customers of the Japanese companies will be able to switch to IBM without discarding their old software.

IBM cloning Fujitsu? Not exactly, but Big Blue is causing a stir in Japan with its new tactics for fighting back. The longest-running American success story there, IBM Japan Ltd. regularly accounts for 10% of Big Blue's earnings worldwide, with sales that should top \$9.5 billion this year. But its 25% slice of the Japanese mainframe market is increasingly under fire. So headquarters in Armonk, N.Y., is encouraging IBM Japan to take up such weapons as heavy discounting, joint ventures with local suppliers, and selling IBM machines under different brand names.

HANDICAPPED. Fujitsu Ltd., which knocked IBM out of first place in 1979, is pressing again by importing IBM-compatible mainframes from U.S. affiliate Amdahl Corp. With a 30% market share in Japan, Big Blue clings to

a slim lead in large mainframes costing \$3 million and up, but it trails Fujitsu and NEC Corp. in midsize systems and lags badly in personal computers, where NEC dominates. IBM is countering with a new ad campaign aimed at small and medium-size companies.

Big Blue's new strategy for mimick-

ing Fujitsu and Hitachi machines could help overcome its biggest handicap: a shortage of programmers to write software for its mainframes. In Japan, computer makers are expected to supply huge volumes of programs. Fujitsu and Hitachi Ltd. each boast several times as many software engineers as IBM's 5,000 software engineers. Now IBM will be able to piggyback on its rivals' software.

The strategy already shows some signs of success. The systems-development department of Victor Co. of Japan is switching from Fujitsu to Big Blue. Says General Manager Tetsuo Ban, "We needed better compatibility with our IBM systems overseas."

The software shortage is also pushing IBM Japan into other unconventional tactics. In a first for Big Blue, it recently permitted Ricoh Co. to sell the AS/400 computer under its own label. IBM is also lining up joint ventures, 23 so far, including a \$43 million-dollar deal with telephone behemoth NTT Corp. "These ventures allow us to leverage our skills," says Peter L. Schavoir, vice-president at World Trade Asia in Tokyo. "We intend to do a lot more of them."

IBM Japan is also slashing prices to hold its ground. Discounts of 30% to companies are common but can run as high as 90% to schools. "IBM discounts as aggressively as any Japanese company," says Kenichi Kitagawa, editor of *Nikkei Watcher on IBM*.

IBM Japan's unorthodox tactics have proved so successful that Armonk is adopting many of them. As Japanese computer companies expand into the U.S., the lessons IBM has learned in Japan may come in handy.

By Neil Gross in Tokyo

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JAPAN

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With the LDP in disarray, Toshiki Kaifu may not star for long

On Aug. 9, Toshiki Kaifu achieved a lifelong dream by becoming Prime Minister of Japan. But his chances of a lengthy tenure are slim.

In the past two years, three predecessors have left office in disgrace. His ruling Liberal Democratic Party is in disarray. It suffered its worst defeat ever last month in Upper House elections and looks set for a drubbing in Lower House elections. Kaifu (pronounced Kye-foo) could wind up as a sacrificial lamb. His Cabinet and party leadership choices also show that, like predecessor Sosuke Uno, the 58-year-old former Education Minister is fronting for former Prime Minister Noboru Takeshita and Shintaro Abe, a former Foreign Minister who wants to be come Prime Minister himself.

All this suggests that Japan's political leadership will remain weak as the U.S. gears up for talks in September aimed at loosening up Japan's distribution system, the close-knit structure of its business groups, and other impediments to imports. Some U.S. officials aren't concerned by political weakness because they see consumer and voter anger as building pressure for the reforms the U.S. is seeking. "We can perhaps lend some force to the interests that are operating in Japan already," says Commerce Under Secretary J. Michael Farren.

SAME SPOTS. Kaifu's statements, however, leave little room for optimism. In an Aug. 5 newspaper interview, Kaifu noted that, on a May visit to the U.S., he found the dominant mood to be "very emotional" and unswayed by "logic or reasoning." He may come to the U.S. next month to meet President Bush.

Kaifu's ascent even in the face of a domestic political crisis shows that the LDP hasn't been able to change its

spots. Although it desperately needs a strong, popular leader to restore voter confidence, factional infighting and personal ambitions kept the party from naming one. Many observers believe Kaifu will be replaced after the Lower



House elections that are likely as early as this fall.

Kaifu's unenviable job is somehow to redeem the LDP in the eyes of voters in a very short time. Within the next few months, he must push political reform legislation through the Diet, revise the detested consumption tax, win back farmers and women voters, and fend off new opposition strength in the Upper House. "Making a major change in the tax is the key to restoring the LDP's popularity," says faction leader and former Finance Minister Kiichi Miyazawa.

The LDP must also be praying that there are no skeletons in Kaifu's closet. "If the next Prime Minister has problems like Takeshita and Uno did, the LDP will splinter," says party power broker Michio Watanabe. Takeshita had to resign because of involvement in the Recruit payoff scandal, and Uno's two-month term was cut short because of his geisha scandal.

UNTARNISHED. Working in Kaifu's favor are his relative youth, his clean image, and his reputed eloquence. He has few enemies in the LDP, and his close ties with Takeshita, who also belonged to the Speech Society at Waseda University,

give him some clout. On the other hand, Kaifu has served in the Cabinet only twice, and he's not known for skill in economics or diplomacy. And he comes from one of the smaller and weakest LDP factions led by Toshio Komoto.

This lack of a strong power base is largely why he was chosen. Such veteran LDP heavyweights as Abe and Miyazawa are still waiting their turn to become Prime Minister. Now is their time, though. The Recruit scandal, which tainted them, is still too fresh in voters' minds, and, if the LDP gets drubbed again in the next elections, the party leader might have to resign, as Uno did.

Kaifu still could pull a rabbit out of his hat. He made a name for himself as a top aide to late Prime Minister Takeo Miki, who succeeded the disgraced Kakuei Tanaka in 1982, pushed through two political reform bills, and followed Tanaka to be arrested on bribery charges. Supporters hope Kaifu will show the same unexpected fortitude.

But the stronger prospect is for a deepening political muddle. The LDP is less decisively responding in July than many analysts expected. "They need a new understanding of the new situation," says Japan Specialist Party Chairwoman Takako Doi. Failing that, Kaifu could be leading the party down the road of more humiliation.

By Robert Neff in Tokyo, with Paul Magnusson in Washington



KAIFU: A STOPGAP?



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HOW THE SANDINISTAS CAN'T BLAME IT ON THE CONTRAS

Eight years of U.S. military intervention by proxy in Central America are about to end with the target of the incursions, Nicaraguan leader Daniel Ortega and his Sandinista government, still in power. At their Aug. 5-7 summit in a steamy Honduran coastal town, Ortega and Central America's four other Presidents agreed to demobilize the 100-man *contra* army that the Central Intelligence Agency created, armed, and trained. Its aim was to overthrow the Sandinistas, the eclectic Marxists who have ruled Nicaragua since 1979, and thus enforce the Reagan Doctrine. That policy, under President Reagan, called for co-action and "low intensity" warfare to combat communism in the Third World. The policy's failure in Nicaragua underscored by the participation of Ortega himself in the decision to disband the *contras* by Dec. 5 and repatriate or expel them from Honduran border areas where most are now camped.

The disbanding is to be supervised by the United Nations and the Organization of American States, but the plan doesn't have all the details. If President Bush engaged the *contras* to sit tight, they could be hard to evict. To placate U.S. right-wingers, Bush wants to keep the *contras* intact, saying they are needed to pressure the Sandinistas to hold fair elections next February. Bush and congressional conservatives thought they had sidestepped the prickly issue of the *contras'* future by agreeing last March to provide only non-military aid through February. But if Bush refuses to help them, he will seriously strain relations with Latin America and face a political backlash in the U.S. Honduran President José Azcona, usually a docile follower of Washington, wants the *contras* out quickly for fear they will become a captive force. And congressional leaders can cut off support to the *contras* by using their authority under the March 1984 law to halt aid after Nov. 30.

Paradoxically, with or without the *contras*, the Sandinistas

have an increasingly powerful incentive to hold fair elections: They are the key to breaking out of the economic noose that is tightening around Nicaragua. Besides cutting Nicaragua off from the U.S. market, Washington has blocked loans from the World Bank, the International Monetary Fund, and the Inter-American Development Bank. In fact, the centerpiece of Bush's Nicaragua policy has not been the *contras*, says Laurence R. Birns, director of the Washington-based Council on Hemispheric Affairs, but "the economic strangulation of the Sandinistas by a worldwide economic embargo." However, the

appearance of clean elections "would open the door to enormous foreign aid," says Jaime Chamorro, co-publisher of Managua's fiercely anti-Sandinista newspaper, *La Prensa*.

FAIRNESS PAYOFF. Although the Nicaraguan economy's near-collapse has alienated many supporters, the Sandinistas' nationwide organization should be able to muster enough honest votes next February to keep them in office against more than 20 divided opposition parties. To prove his honest intent, Ortega re-

cently negotiated a pact with opposition leaders providing electoral guarantees, from access to voter lists to free TV time. U.N. observers have started monitoring the election process. West Germany and Canada are offering election help, from computers to 11,000 ballot boxes. And Jimmy Carter, among others, accepted a Sandinista invitation to monitor the vote. If observers call the election fair, aid-givers such as Germany and Canada intend to step up assistance to Nicaragua. And it will be politically harder for the U.S. to block loans.

For eight years, the *contras* have given the Sandinistas a ready excuse for political curbs and economic failures. Now, at home and abroad, they will have to face judgment on their own performance in these areas, after the *contras* are gone.

By Bill Javetski in Washington and Stephen Baker in Mexico City, with Ana Arana in Tegucigalpa, Honduras



ORTEGA: PROMISING FAIR ELECTIONS

BAL WRAPUP

ITALY

High-level direct talks between Britain and Argentina, the most significant contacts since the 1982 Falklands War, will bring top diplomats from the two countries to New York Aug. 16-17. The meeting signals a conciliatory approach by Argentina's President, Carlos Menem, to the dispute over the British-controlled Falkland Islands, 300 miles offshore. Argentina recently ended trade sanctions against Britain, reciprocating a similar British move in 1985. Britain hopes the talks will lead to resumed jet air links between the countries and an accord on disputed fishing

rights. Menem has been hinting he would be willing to restore full diplomatic ties without settling Argentina's claim to sovereignty over the Falklands, which Britain refuses to discuss.

Menem is motivated by Argentina's economic straits and massive foreign debt. By improving relations with Britain, he aims to remove a roadblock to a bigger goal: strengthening trade and financial ties with the entire European Community.

EAST GERMANY

Sweeping political and economic changes in Poland, Hungary, and the Soviet Union are having a ripple effect in East Germany, still under

hardline Marxist rule. While Communist Party leader Erich Honecker denies any need to revitalize the country's deteriorating economy, citizens are voting with their feet. Hundreds of East Germans seeking to escape have been thronging to West German embassies in Budapest, Prague, and Vienna. Hungary may grant asylum to some. In East Berlin, Bonn's diplomatic mission had to shut its doors with 130 East Germans sleeping in its halls.

The new exodus reflects rising tension in East Germany and will step up pressure on Honecker to devise his own brand of *perestroika*. If he waits too long, East Germany's vaunted stability could turn to unrest.

BASEBALL



COLLEGE AND OLYMPIC STAR McDONALD HAS GOTTEN A BIG OFFER FROM THE NEW LEAGUE

STEPPING UP TO THE PLATE: A NEW BASEBALL LEAGUE?

Its backers insist they're serious, but they give few details

Ben McDonald is a 21-year-old, six-foot, seven-inch right-handed pitcher out of Louisiana State University. He holds a gold medal for his spot on the 1988 U.S. Olympic baseball team. But his future is looking even brighter. In June, he was drafted by the Baltimore Orioles as their—and baseball's—top pick. The Orioles offered McDonald a three-year package of signing bonus and salary worth \$750,000.

Then, a funny thing happened. A proposed new baseball league surfaced, and its leaders approached McDonald's agent, Scott Boras. Organizers say the league has offered McDonald \$2 million, though Boras refuses to confirm that figure. McDonald still hasn't made up his mind what he's going to do.

SECRETS. A new baseball league? No one has tried to compete with Major League Baseball since 1914, when the Federal League tried and failed. Yet that's what a group of agents and investors has set out to do. Could this be a gambit in the labor negotiations that will begin after the end of this season? If the

talks result in a strike or lockout, a new league might be able to make deals with some major leaguers and get more bargaining leverage with the TV networks the organizers have already approached. Sources working with the organizers, however, say the possible league has nothing to do with the labor situation.

The league has no formal structure, yet. But it has a business plan its backers have been trying to keep secret. Marvin Miller, retired executive director of the Major League Baseball Players' Assn., has read it, and thinks the league has a good chance. "I've thought for a long time another league would be viable," he says. "I never bought the baloney that baseball people hand out about how poorly they have been doing."

No new baseball league can survive without TV, of course. Beginning next year, CBS Inc. will have an exclusive network contract for which it paid \$1.1 billion for four years. Backers of the new league have talked with ABC Inc. and NBC Inc., the longtime incumbents of baseball broadcasting. NBC is the more

likely candidate, because ABC owns 80% of ESPN Inc., which will carry 175 games on cable each season starting next year. NBC won't comment, but it's known to be listening to the new league's proposal.

Richard Moss, a former general counsel for the players' association; David LeFevre, a former minority owner in the Houston Astros and Cleveland Indians; and LeFevre's associate, Douglas Nelson, have been studying the potential of a new league for at least two years. One source says there would be 8 to 10 cities initially, "and five guys, some with very deep pockets, have already invested \$1 million each toward new franchises." **PROBLEMS.** One investor not readily identified with baseball is Washington (D.C.) restaurateur Jeffrey Gildenhorn. He says he's "definitely 100% committed" to putting up \$1.5 million for a 10% share of a Washington franchise to be called what else?—the Senators. He believes that Washington's metropolitan growth in the past two decades will make a revived Senators franchise viable.

A new league will certainly have problems competing. But it does have a few things going for it. Boras argues that every year there are exceptional talents coming out of college. Traditionally, the majors draft the players, then pitch them as little as possible until they become eligible—three years after they make the big leagues—for arbitration. Then salaries shoot up. The new league is clearly willing to pay the exceptional talents more. Here's another source of labor: Big league owners, having been burned by signing long-term contracts, only to have their players get injured and have tended lately to limit pacts to three years. That means plenty of stars will be eligible to jump to a new league over the next few years.

The new league might also enjoy an edge in the many cities whose desire for a major league ball club has long been frustrated. Miller says the organizers have done in-depth research into a half-dozen or more cities and found intense interest. One incalculable risk: If a city accepts a team in the new league, it may lose whatever chance it might have had to be an expansion city in the major leagues. Major League Baseball officials are being careful so far not to intrude on the organization of a potential rival. "If the league comes into existence and competes with us, we will fairly and honestly compete with it," says deputy commissioner Francis T. Vincent. The Ben McDonald case, however, shows that the competition has already started.

By Brenton Welling in New York, with Ronald Grover in Los Angeles and Peter Hong in Washington

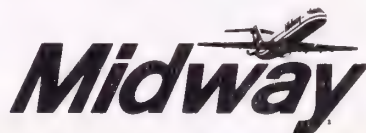


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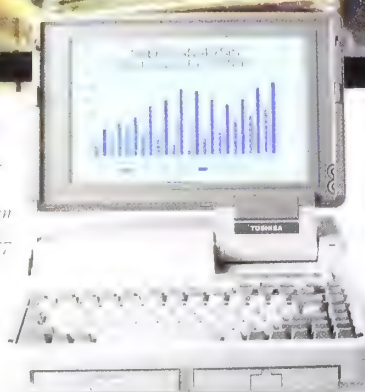
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Big demand for U.S. beef is making cowboys of the Japanese

Things just aren't the same at the old Selkirk Ranch in Montana these days. There are Japanese prints among the Indian blankets and Stetsons in the ranch house. Two new Japanese hands ride the range—and one drives his Ford Bronco into nearby Butte to teach karate in his off-hours. Then there are the cattle. Unlike the lean critters Selkirk once raised for cholesterol-wary Americans, these animals are stuffed with grain to produce marbled steaks that tempt Japanese palates. The ranch may even have to play down its Lazy 8 brand. "The concept of lazy doesn't fit in Japan," says ranch manager John W. Morse Jr. Even the name has changed. It's the Zenchiku Ranch now.

Last October, Toyko meat importer Zenchiku Ltd. paid \$13 million for Selkirk, which covers 77,000 acres near Dillon, Mont. Zenchiku's goal is to ship 80% of the ranch's production to Japan, up from 60% this year. Some 1,600 Zenchiku cattle will be slaughtered for export this year, and that could jump to 30,000 by 1994 as Zenchiku contracts with other ranchers to raise animals.

Zenchiku is part of a Japanese stam-

pede to buy up U.S. ranches, feedlots, and packing plants. According to Steve Kay, editor and publisher of *Cattle Buyers Weekly*, Japanese companies have invested \$50 million to \$100 million in the U.S. beef industry since 1987. Last August, Farmland Trading Co., a Japanese import-export firm, bought Washington Beef Inc., a Yakima (Wash.) packer with sales of \$200 million. Within two years, Washington Beef plans to be exporting 45% of its production to Japan, double what it is sending there now. The Japanese are even buying shares in Iowa Beef Processors Inc., the giant packer in Dakota City, Neb. Says Alan R. Midgaugh, president of the U.S. Meat Export Federation: "They all see 120 million people with a pent-up demand looking to 1991," when Japanese quotas on imported meats are due to expire.

BIG APPETITES. Last year, the U.S. shipped \$841 million worth of beef to Japan. That will increase by as much as 30% a year for the next few years, Midgaugh predicts. Japan now gets 42% of its beef from the U.S., up from 8% in 1976. And it isn't the only Pacific Rim country with a growing beef appetite.

Exports to Korea jumped more than 1,400% last year, \$26 million, after that country eliminated quotas.

But America's primary beef export market is Japan, which consumes, primarily Wagyu cattle. These huge animals produce extra-fat Kobe beef, a delicacy that commands as much as \$100 a pound in Japan. Although U.S. ranchers don't produce Kobe beef, some are raising fatter animals. Export-oriented feedlots grain-feed cattle for up to 200 days vs. 120 for domestic beef. These animals weigh close to 1,500 pounds, so a 30% more than cattle killed for U.S. buyers. Range-fed Australian beef, the main competition for the U.S. in Japan, is tougher. So U.S. beef fetches a hefty premium.

\$20 for a rib eye steak. "American consumers buy more on price," says Morse. "The Japanese buy on quality first."

Eventually, the Japanese should get more for their money. "The price is unbelievable, but once we sell more beef to them, it will come down," says Charles K. Monfort, head of international sales at Monfort Inc. in Greeley, Colo. Monfort's sales to Japan jumped 20% last year, to \$245 million, and the company is considering selling to China in the 1990s.

ROOM FOR GROWTH. The Zenchiku Ranch notwithstanding, the Japanese now control just a fraction of U.S. beef production. That's because U.S. producers themselves have latched on to the Asian market to make up for stagnant consumption at home. Some 8% of U.S. beef went to Asia last year, up from 5% in 1987, and there's plenty of room for growth: The Japanese consumed an average 12 pounds of red meat per person last year vs. 75 pounds for Americans.

Most packers ship the same cuts to Japan as they sell at home, but that, too, may soon change. "The Japanese are forcing us to focus on a market-driven concept," says Morse. He predicts that packers soon will be turning out value-added products for the brand-conscious Japanese market, including pan-ready steaks marinated in soy sauce.

Meanwhile, back at the Zenchiku Ranch, an even odder plan is afoot: The new owners are talking about importing Kobe beef for sale in the U.S. High fat? At \$100 a pound? It could be the first Japanese import in a decade that Americans won't buy.

By Sandra D. Atchison in Dillon, Mo.

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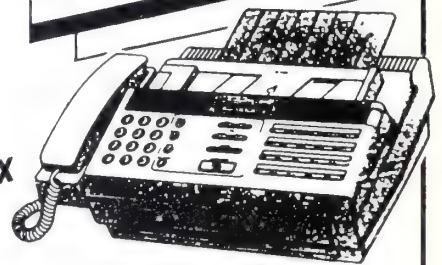
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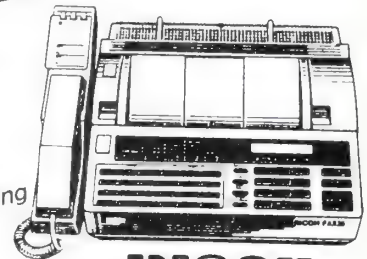
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IT'S RAINING RAINMAKERS ON MADISON AVENUE

Hungry agencies hope new-business experts can win clients

When Circuit City Stores Inc., a Richmond (Va.)-based chain of electronics stores, began looking for a new ad agency last spring, Madison Avenue cynics quickly dubbed the search "Circus City." More than 40 shops went after the fairly small \$25 million account, and the company arranged to meet with seven finalists over the course of a daylong session. Lintas: Campbell-Ewald wasn't on Circuit City's short list, but that didn't stop Don Peppers. He and a group of colleagues showed up during the lunch break bearing pizzas and a complete presentation.

Peppers is one of a new breed of Madison Avenue executives called new-business directors. His sole job is to get the attention of prospective clients and win new accounts for his agency. In a once-clubby industry, where accounts used to be won on the golf course or the 5:31 to Greenwich, these agency rainmakers have introduced the hard sell. Peppers' brash tactics won a hearing for Lintas that day, but Circuit City didn't pick his agency as one of two finalists. The inci-

dent illustrates both the promise and the limitations of rainmakers: They may get an agency noticed, but they don't necessarily win accounts.

For years, ad agencies assigned new-business pitches to account executives who had some time on their hands. "Instead of firing someone who had just lost a big client, agencies would say: 'O. K., go out and get yourself another one,'" explains Sandy Sulcer, director of new-business development at D'Arcy Masius Benton & Bowles Inc. (DMB&B).

Lately, though, growth in ad spending has slowed, and agency profits have been shrinking, forcing ad shops to compete ferociously for new accounts. That has made full-time new-business directors some of the most sought-after people on Madison Avenue. Lintas lured Peppers from New York agency Levine, Huntley, Schmidt & Beaver Inc. with a compensation package that may be as high as \$400,000 including performance bonuses—although Lintas denies published reports to that effect. Saatchi & Saatchi Advertising Worldwide; Wells,

Rich, Greene; and Campbell-Mithun-Egan are among the top agencies that have also hired or promoted new-business executives in the last couple of years.

New-business directors played prominent roles in the recent Burger King Corp. review. In the largest account switch this year, Burger King's British parent, Grand Metropolitan PLC, took a \$215 million in billings away from N. W. Ayer Inc. and split it between Saatchi and DMB&B. At both agencies, new-business directors had been courting Burger King management for three years, even though the chain wasn't actively looking for a change. They also made sure the agencies stayed up-to-date on fast-food consumer research and industry trends.

FEEDING TIME. Sulcer's strategy included calling on a long list of friends to put a good word for DMB&B. The agency's Los Angeles office handles a piece of business for Pillsbury Co., the U.S. unit of Grand Met that owns Burger King. And several clients of the agency's London office knew Barry J. Gibbons, the new British chief executive at Burger King. "We had all these people call Gibbons and tell him he should sit down with us," says Sulcer. So far this year, Sulcer has helped bring in \$235 million in new billings, including Burger King and the Maxwell House coffee account.

Andy J. Fraser, new-business director for Saatchi, says the agency's large network of offices is one of his best prospecting tools. Fraser came to the New York office from Saatchi's London agency.

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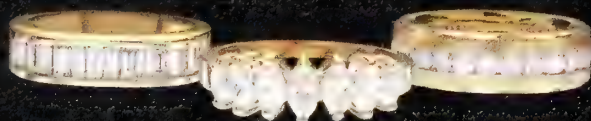
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cy in January to help the U.S. ar whose billings increased a disappointing 3.6% last year. Since his arrival, the agency has picked up \$150 million in new accounts, including Burger King and Salomon North America skis, a \$10 million account Fraser says he won largely because Saatchi handles the business in Europe—where he won it, too.

With so many fish circling the same bait, some agencies are resorting to desperate moves to get clients' attention. But Peppers says stunts such as his invited pizza delivery can sometimes pay off: "Even if they don't get a client to talk to you, the prospect may remember you later."

HYPE HAZARDS. The frenzied chase for new business can irritate some prospective clients who find themselves buried under an avalanche of phone calls, letters, brochures, ad samples, and search reports sent by rainmakers. Long before Grand Met decided to put the Burger King account up for review, "I had an office filled with reels and other agency paraphernalia," says Ian A. Martin, chief executive of Pillsbury.

Burger King's marketing woes were well publicized, so agencies had good reason to smell blood. But now, even small accounts such as Circuit City's are getting big attention. After word leaked that the Bermuda Department of Tourism was looking for a new agency for its \$10 million business, the department received 120 inquiries. And it's not unusual for rainmakers to pester clients who have no thoughts of switching agencies.

If the new-business specialists are rubbing some prospective clients the wrong way, they can also cause friction inside their own agencies. The company biography on Peppers, for instance, linked him to Lintas' splashy IBM win last year. But Peppers arrived only two weeks before Lintas pitched that account—work after most of the work had been done. In fact, Peppers has been directly involved in only the Princess Cruises and Molson beer account wins, about \$45 million in new billings. Agency insiders say the misplaced credit has alienated employees who worked for months on the IBM pitch.

The hot competition for accounts is paying off for another special breed called the "search consultant," independent advisers who help clients screen the ad agencies clamoring for their business. These consultants are supposed to make the process simpler. But, when Prudential Insurance Co. of America Inc. put its \$60 million account up for review last month, the company also announced it was screening possible search consultants. At press time, the financial-services company was still searching for the right search consultant.

By Walecia Konrad in New York

HOW MUCH IS A SEA OTTER WORTH?

Economists are trying to put a price on the environment

As the old saying goes, the best things in life are free. A quiet forest, an unspoiled lake—it's hard to think of putting a price on these natural resources. Now, though, a number of economists are trying to do that by assigning values to "non-market benefits"—aspects of the environment that have no established market price. These economists are

measuring the value of things such as clean air, as well as the preservation of unspoiled wildernesses and endangered species. At a time of intense political debate over how much to spend on the environment, adding in these market values just strengthens the case for more protection.

How much these intangibles are worth has become very real to Exxon Corp. and the state of Alaska. It's likely that the oil company will be asked to provide compensation for a wide range of damages in Prince William Sound, including the impact on wildlife and recreational users. So Exxon, Alaska, and the federal government are lining up the services of natural resource economists who place some value on dying sea otters on oily beaches.

ISSUE. Assessing such values may be mandatory in the wake of a federal court ruling last month. In that case, filed against the Interior Dept. by a coalition of environmental groups, the court found that polluters who dump oil and toxic chemicals must be forced to restore the environment to its original condition. If that's not possible, they have to pay compensation for the total value of the damages—including the loss of non-market benefits.

But in the past, it has been easier to place a dollar value on the cost of pollution control than on the cost of damages. Natural resources that are bought and sold—such as lobsters and salmon—can be valued at their market price. Non-market benefits, though, have been treated as priceless or worthless depending on who was sponsoring the study.

"But things have changed dra-

ple, as part of an ongoing court case in Colorado concerning contamination of the Eagle River by mining debris. Economists estimated that anglers heading to the region placed a value of about \$21 on each trip. And people already living in the area received annual benefits of \$73 per household from fishing on the river. Similarly, New Bedford Harbor in Massachusetts was found to be polluted by PCBs in the mid-1970s. By measuring the declining frequency of beach visits, economists calculated that the damages to beach-goers from the pollution was about \$11 million.

FALSE VALUE? Leaving out these non-market values greatly understates the total losses. In New Bedford, a large area was closed to commercial lobstermen, but their lost income amounted to much less than the estimated dollar impact on the region's recreational users.

In air pollution cases, there are direct impacts on users that are not captured in market prices. Typically, cost-benefit studies of the effect of controlling air pollution have used reduced medical costs to measure the benefits. But this is surely an underestimate, notes Alan J. Krupnick of Resources for the Future, an environmental economics research group. It leaves out daily discomfort from coughing and eye irritation, which, studies show, people might be willing to pay \$10 per day to avoid. And one study suggests that if pollution controls could reduce the number of asthma attacks, sufferers would benefit more from the reduced dis-

tress than from lower medical costs.

But consumers may also benefit from natural resources they have no contact with. For example, many people like knowing that the bald eagle exists, even if they have never seen one. And while all agree this "existence value" is real, it's not easy to measure.

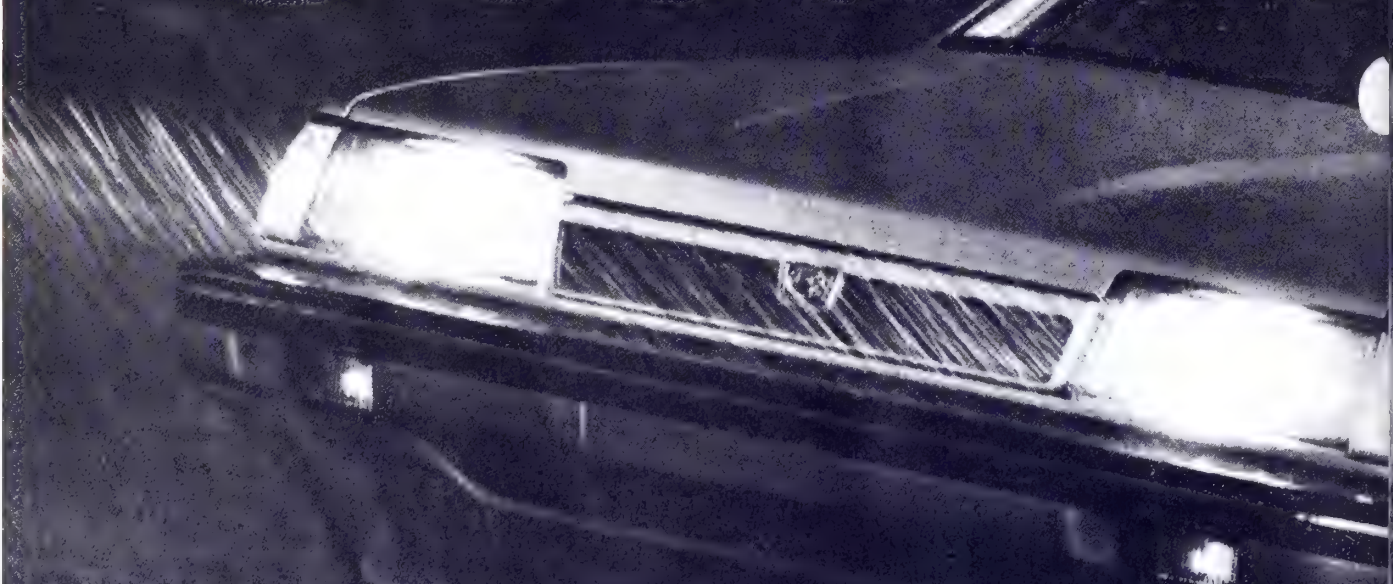
Instead, economists have tried asking people—using techniques drawn from psychology and market research—how much they would be willing to pay to keep some natural resource in existence. For example, one survey found that Cali-



matically," says V. Kerry Smith of North Carolina State University, one of the few experts in nonmarket values not currently involved in the Exxon Valdez case. In the past three or four years, notes Smith, valuing natural resources has become a hot issue.

Measuring intangibles is easiest in those cases in which environmental problems directly harm users. A polluted river or lake will discourage fishing and swimming, and the value of the lost recreational opportunities can be estimated. These calculations were done, for exam-

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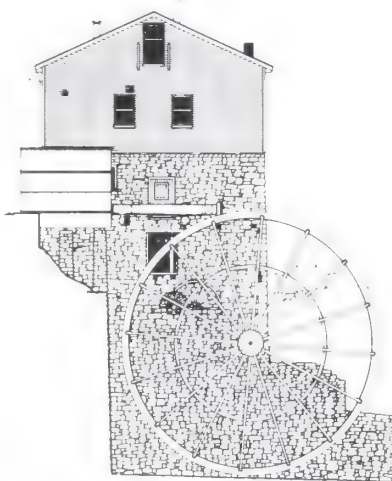
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Advertising Correction

In the July 17, 1989, Japan Special Advertising Section, Mr. Masao Tanaka was identified as president of Komatsu. Mr. Tanaka currently serves as counselor and member of the board of directors of Komatsu, Ltd.

PRESERVATION PLAN ON IT



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Economics

fornia residents would be willing to pay about \$25 annually to preserve Mono Lake, a well-known and environmentally fragile body of water—even if they never visited it. With about 10 million households in the state, this gives Mono Lake a value of about \$250 million annually.

Estimates of the existence value of endangered species such as the bald eagle and the whooping crane also range from about \$10 per household, which adds up to millions when all the people in a state or in the whole country are counted. Assigning such high numbers to existence value makes some people uneasy. "The methodology works best when people have experience buying similar goods,"

"The oil industry is not ready to write a check for someone's sense of moral outrage"

says Daniel Kahneman, a psychologist at the University of California at Berkeley. "Existence value for things people never think about is a wobbly concept."

But everyone agrees that the quality of the surveys has improved over the past few years. The questions are becoming more realistic—people are now asked how much they would be willing to see their taxes rise to save an endangered species. One government economist observes: "They've evolved to a point where people are willing to get in court and defend their numbers."

IMPERFECT METHODS. By and large, industry representatives scoff at using survey data to measure intangibles. The American Petroleum Institute, for example, takes the position that the methodology is still speculative, so existence values probably can't be measured accurately. "The oil industry is not ready to write a check for someone's sense of moral outrage watching otters die on TV," says an oil industry source.

Many environmentalists also have reservations about nonmarket values, at least for the opposite reason. "There are some values that aren't fully considered through economics," says Erik Olson of the National Wildlife Federation.

Nevertheless, economists are coming up with numbers that show that people put an extraordinarily high value on preserving an unspoiled environment, and even if the methods aren't perfect, being able to place a value on the wonders of nature will make paying for a clean environment less onerous.

By Michael J. Mandel in New York

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WHY MONSANTO IS PLUNKING DOWN ITS CHIPS ON R&D

Two key patents are expiring—so it's spending big in pursuit of new products

Dick Mahoney is a gutsy guy. When he became chairman and CEO of \$8.3 billion Monsanto Co. six years ago, the chemicals giant was earning respectable profits, even though it relied largely on two products and had few promising ones under development. So what did he do? He bet the store on a new-product push that may not pay off fully until the mid-1990s—if then.

When Mahoney took over, Monsanto had been diversifying out of the volatile commodity chemicals business but not fast enough for him. By 1985, he had hiked spending for research and development by 78%, to \$470 million a year, and spent \$2.8 billion for drugmaker G. D. Searle & Co. Now, some 44% of the research dollars are pegged for new businesses, compared with less than 25% in the 1970s. Explains the 55-year-old chemist-turned-manager: "R&D isn't part of the strategy. R&D is the strategy."

However, much of Monsanto's R&D in-



MAHONEY'S MOVE MAY NOT PAY OFF FULLY FOR YEARS

vestment is risky. It is concentrated in life- and food-science areas—drugs, herbicides, animal growth stimulants (table)—which require rigorous testing and a lengthy government-approval process. Monsanto will have spent an estimated \$150 million on developing disease- and pest-resistant plants, for example, by the time its first genetically altered

seed product is expected to start generating profits in the mid-1990s. But the commercial potential could be explosive. Mahoney's credo: "You never start out to hit singles."

SWEET DEAL. Mahoney had reason to be bold. Even though the company is churning out record profits these days, the patent on Roundup, believed to be its biggest profit contributor and the world's best-selling herbicide, expires outside the U. S. in 1991. Likewise, U. S. patent protection for another major source of Monsanto profits, NutraSweet, ends in 1992. These two products, which account for an estimated 30% to 40% of

profits, are likely to get hit by a rash of me-too competitors. "Most people around this company hear a clock ticking," says NutraSweet Co. CEO Robert B. Shapiro.

Mahoney heard it years ago. Since taking over, he has jettisoned commodities accounting for more than \$2 billion in sales—everything from polyester apparel to bulk petrochemicals. He replaced them with higher-margin plastics and specialty chemicals. And to further lift profits, Mahoney went after drugmaker Searle, even though its pipeline of new drugs was unimpressive and it faced potentially thorny litigation over injury claims involving its Coppes birth-control device. He figured Searle's NutraSweet business would produce interim earnings until Searle's drug business could be revitalized.

Mahoney installed new management at Searle and doubled its R&D spending. While the unit this year launched an antilucer drug that's selling well, coming up with some new big-sellers may take a while. Seventeen years passed, for example, between the discovery of NutraSweet and its first sales. So it has set up a separate group to license other com-

MONSANTO'S CORNUCOPIA OF NEW PRODUCTS

BST and PST Potential sales: * \$1 billion
Growth stimulants for cattle and pigs.
Awaiting government approval

SIMPLESSE Potential sales: \$700 million
Fat substitute awaiting FDA approval

CYTOTEC Potential sales: \$200 million
An antilucer drug introduced this year

DIMENSION Potential sales: \$100 million
Low-dosage herbicide for getting rid of crabgrass. To debut next year

ENGINEERED PLANTS Potential sales: unknown
Developing genetically altered plants resistant to herbicides, insects, or diseases. Should go commercial by mid-90s.

* Annual figures

DATA: MONSANTO CO., DREXEL BURNHAM LAMBERT INC., SALOMON BROTHERS INC., BW



compounds. The unit already has had a hit: Calan, a hypertension drug used from a Japanese developer, will bring in about \$300 million this year, making it Searle's top seller.

The pressure for new products has been constant throughout Monsanto. The \$1.4 billion agricultural chemicals unit, long the company's most profitable, is always getting results. Thirteen new agricultural products, such as some rice herbicides, are on the fast track and should receive approvals by the mid-90s, while another 14 aren't far behind. Twenty-five will undergo field tests this year. It's the highest number of products the ag unit has had under development in 25 years. In the meantime, the company is working furiously to crank out new formulations of its hot-selling Roundup Lasso herbicides.

HURDLES. Mahoney aims to keep a burst of new-product activity under control. For nearly 20 years, Monsanto has little to show for pumping millions into developing chemicals that regulate plant growth—only to give up in the 1980s when that entire area of science was eclipsed by biotechnology. Mahoney doesn't want a replay of that experience. In an alcove behind his desk, he keeps binders detailing development milestones that must be met by specific dates. The system is simple: Projects that don't meet their next hurdle date are scrapped. "We commit to see a project through to the end," explains Mahoney. "But we demand milestones, and he is the keeper of the milestones. This is a rigorous process, but it's also the guts of the company's future."

The future still isn't assured. The products are on their way—but so are those of competitors. NutraSweet's sucralose fat substitute, which is awaiting FDA approval, promises to reduce calories sharply and fat in ice cream and margarine. But it will go head to head with Procter & Gamble Co.'s olestra—a synthetic fat substitute currently being tested in regulatory scrutiny. Monsanto Inc. is also developing its own fat substitute for frozen desserts.

Meanwhile, Monsanto's bovine somatotropin (BST) growth stimulant for cattle competes with similar products in the hands of Eli Lilly & Co. and American Cyanamid Co. Worse, it may face opposition from both European consumers alarmed by hormone-treated meat and U.S. dairy farmers fearful that BST will lower milk prices. Notes William W. Reid, an analyst at First Union National Bank in Charlotte, N.C., a Monsanto holder: "Monsanto could be a very important group fighting the product—the dairy farmer."

Wall Street seems unfazed, however. Monsanto's stock price, at about 118, is up 15% since Jan. 1. The credit goes, in

part, to the company's record earnings and a hefty stock buyback program. A spate of out-of-court settlements has also encouraged Wall Street to believe that the Copper-7 cases need not be financially devastating. But, fundamentally, analysts see Simplex and Searle's new Cytotec antiulcer drug as evidence that Mahoney's new-product regimen is taking hold. Figures Salomon Brothers Inc. analyst Leslie C. Ravitz: "If you put

enough irons in the fire, eventually you'll find something hot."

Mahoney is confident that the heavy spending will spawn life-science products in the 1990s that will allow Monsanto to leave behind the days when oil prices were the crucial component in the company's profit equation. As he puts it: "Our brainpower counts for more than the price of a barrel of oil."

By James E. Ellis in St. Louis

MONSANTO IS TEACHING OLD WORKERS NEW TRICKS

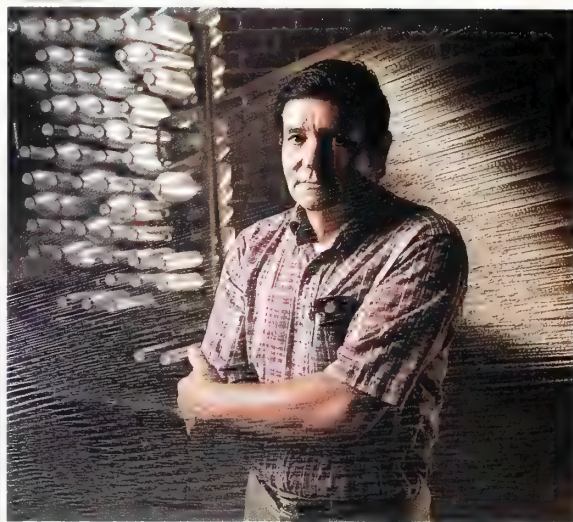
It wasn't long after CEO Richard J. Mahoney took charge that Alvin K. Allison's job changed drastically at Monsanto Chemical Co.'s fibers plant in Greenwood, S.C. For one thing, no foreman now peers over his shoulder as he repairs machinery. And the top brass has thinned out. Allison leads a team of mechanics who divide the work and make key decisions themselves. "I knew 20 years ago that I could direct my own job," he says, "but nobody wanted to hear what I had to say."

The linchpin of Mahoney's strategy may be new products, but whether he attains his goal of raising Monsanto's return on equity from 15% now to 20% by the mid-1990s depends heavily on his making plants like the Greenwood complex into lean-and-mean producers. And getting workers involved in decision-making and quality control is every bit as crucial as the new computerized control systems that the \$4 billion chemicals unit is adding.

Mahoney's program is affecting virtually every Monsanto plant, from Chocolate Bayou, Tex., to Antwerp, Belgium. As part of the move away from commodities, Greenwood switched from making nylon for apparel to making stain-resistant carpet fiber, causing employment to fall. But while hourly workers are down 28%, the ranks of salaried managers and supervisors has shrunk 50%. With fewer supervisors, plant management has boosted spending on training.

UPSIDE DOWN. Making such fundamental changes in the management-worker relationship is no easy task for any organization. But it's particularly tricky for 28-year-old Greenwood. Unlike spanking new facilities, such as

the Fuji Photo Film USA Inc. plant just down the road, Monsanto is forcing changes on an established plant and veteran employees. "Most of us had been working under the [old] system for 20 years, and habits are hard to break," says William W. Wessinger, a maintenance engineer. Indeed, Allison says that early on he got this response when he gave a teammate an unpopular work assignment: "He thought



ALLISON: HIS TEAM MAKES KEY DECISIONS ON ITS OWN

about it a minute and then told me: 'I think I'll just whip your ass.'"

Such confrontations are rare today, but the makeover is not problem-free. In focusing on quality and productivity, employees became less safety-conscious, and injuries are more frequent. Also, the new organizational structure means promotions are more scarce. Nonetheless, the new order is here to stay. "Once you give people freedom, you can't take it back," warns Jack W. Treece, Greenwood's personnel chief for 10 years. Besides, with quality improving and productivity 47% higher than four years ago, Mahoney would not have it any other way.

By James E. Ellis in Greenwood, S.C.

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COORS MAY TAKE A GULP OF A RIVAL BREW

Stroh's Old Milwaukee could vault the brewer into third place

For the past few years, William K. Coors and Peter W. Stroh have played a game of chicken. While Anheuser-Busch and Philip Morris' Miller Brewing have outspent and out-marketed them, the two proud scions of old-line brewing families have remained independent, intent on going it alone.

In February, however, Stroh decided to sell a minority stake in the privately held Stroh Brewery Co. to a foreign investor. And now, industry executives say, Adolph Coors Co. and G. Heileman Brewing Co. are bidding to take over all or parts of the Detroit brewer. For debt-laden Heileman, a unit of Australia's Bond Corp. Holdings, buying parts of Stroh might help slow a precipitous sales slide. For Coors, Stroh brands like Old Milwaukee, Schaefer, or Schlitz Malt Liquor would vault it from fourth place in the industry to third, and give it a real chance to chase the leaders. "We're in a kind of never-never land," says Peter H. Coors, Bill's nephew and president of Coors' brewing division. "You can't survive long-term with a 9% market share."

EARNINGS SKID. Indeed, with 40% and 21% of the market, respectively, Anheuser and Miller are threatening to run away with the beer business. For the past 13 years, Coors has relied on expanding its territory to achieve growth. But now its brands are available in every state but Indiana, and the rollout has failed to make up for declines in older Western markets. For the first half of this year, Coors' total volume slipped 1%, according to the industry newsletter *Beer Marketer's Insights* (table). Earnings have dropped for two years running, skidding 48% in the first six months of this year.

Nevertheless, Coors is clearly better



BIGGER SHARES FOR THE BIG TWO

	Shipments first half 1989 Millions of barrels	Change from year earlier	Market share
ANHEUSER-BUSCH	21.4	3.7%	40.4%
MILLER	11.4	7.3	20.7
STROH	5.4	-10.0	10.9
COORS	4.8	-1.0	8.8
HEILEMAN	3.8	-12.5	7.8

DATA: BEER MARKETER'S INSIGHTS

situated than No. 3 Stroh or No. 5 Heileman. Both of those companies are caught in a vicious cycle: Lacking cash to advertise with the big guys, they rely heavily on lower-price brews to generate sales. That pinches margins, further eroding profits and cash for new ads. Coors, which has the industry's highest

advertising costs per barrel, is also feeling the squeeze. But because it has debt and its volume comes from high-margin Coors and Coors Light, it makes more money on the beer it sells.

Still, there are problems. The panache Coors once held as a hard-to-get brew has been diffused by its national expansion. According to *Beer Marketer's Insights*, Coors has lost 14% of its volume in California and 20% in Texas over the past five years. Although Coors Light has been a huge success, its 30% annual growth over the past decade has cannibalized Coors' premium sales. The company, which has gotten little help from other new products, plans to launch two low-price beers, Keystone and Keystone Light, in September. But, says Peter Coors, "It takes a huge amount of money to launch a new brew, and not many new beers are successful."

STRONG FOLLOWING. An existing brand like Old Milwaukee would give Coors a big boost. Although it's a low-margin product, it has a strong following and would add nicely to profits by filling currently idle capacity. Moreover, unlike Keystone, it would provide instant access to the low-price segment, which soaks up 25% of the U.S. market.

Streamlining management also might help. Until late last year, Peter Coors head of the brewing operations, reported to Jeffrey H. Coors, the company president and his brother. But Peter says Jeffrey has stepped aside from involvement in brewing decisions "to avoid overlapping assignments." Jeffrey would not comment. Chairman William Coors, 73, reclaimed the title of chief executive, and now Peter reports directly to him. Says industry consultant Robert S. Weinberg: "Everybody is more comfortable with Bill at the helm."

The Coors family could use some stability. Last fall, the *Los Angeles Times* detailed how a long affair broke up the marriage of Vice-Chairman Joseph Coors. In it, Jeffrey Coors, a born-again Christian, blasted his father as an adulterer. A longtime Republican rainmaker, Joseph also was linked recently to the federal Housing & Urban Development scandal when his letter to HUD Secretary Samuel R. Pierce Jr., on behalf of a Denver housing project, became public. Joseph Coors would not comment.

The company has been through political minefields before, having survived boycotts for charges of antiunionism, gay-baiting, and racism. The real problem is the strength and clout of Coors' competitors. If Bill Coors can get some Stroh brands, he will have bought time to stay independent. But he still has a lot of catching up to do.

By Sandra D. Atchison in Denver

Here's a sure-fire way to find out how good your filing system is.



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INSURERS UNDER SIEGE

LAWMAKERS, CONSUMERS, AND CORPORATE CUSTOMERS ARE FIGHTING MAD

Obscure. Abstruse. Boring. For years, that was the image most people had of the insurance industry, a remote monolith shrouded by a cloud of mystery. Everybody bought insurance, but few buyers gave much thought to those who produced it. The insurance business, as a result, operated free from public scrutiny. Exempt from federal regulation, including most anti-trust laws, and subject only to feckless state regulation, the industry was a "private government," as Wyoming Senator Joseph C. O'Mahoney put it in 1945. As a legal cartel, it reaped bountiful profits and came to control enormous assets, now more than \$1.8 trillion. Its premium income is 9% of the GNP. Few industries have ever enjoyed such unchecked political and economic power.

Now, the once-tranquil world of insurance is in turmoil. Instead of the most ignored industry in America, it has

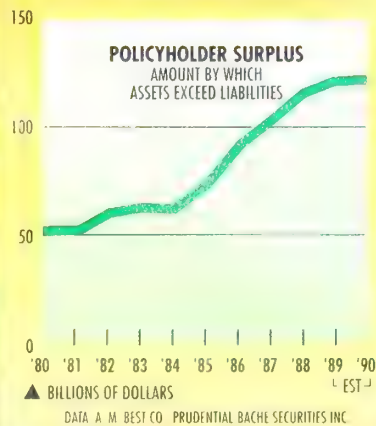
become perhaps the most reviled. Consumers, corporate executives, and lawmakers are lambasting insurers for everything from profiteering to an unseemly attitude of arrogance and insensitivity. "We're being besieged. It's a holocaust that's going on," complains Robert E. Vagley, president of the American Insurance Assn., the most prominent commercial-insurance trade group. Adds Chief Executive John J. Byrne of Fireman's Fund Insurance Co.: "We're at the bottom of everyone's list. Our name is mud."

'LONG DECLINE.' A muddy image is only the most obvious sign of a far-reaching deterioration in the industry's well-being. Everywhere they look today, insurance executives see their power eroding, their markets contracting, and their profits evaporating. "They're in a state of panic," says J. Robert Hunt-

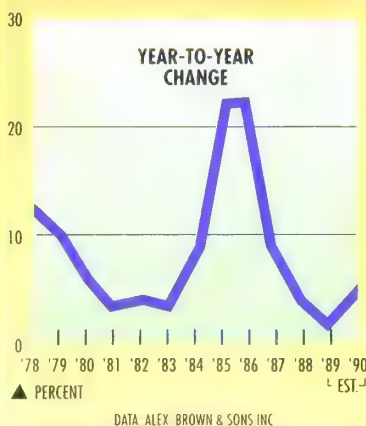
er, president of the National Insurance Consumer Organization and the industry's best-known critic. Consumers and other insurance buyers are benefiting from these developments, which are producing better insurance services at more competitive prices. The insurance industry, however, may end up losing its status as the chief provider of these services. It is threatened, says consultant Orin S. Kramer, "by a period of long-term decline"—a reversal of fortunes that would be among the most dramatic for a major industry in American business history.

Insurers are suffering from major forces beyond their control, notably surging liability damages that have upset property/casualty companies and high interest rates that have squeezed life insur-

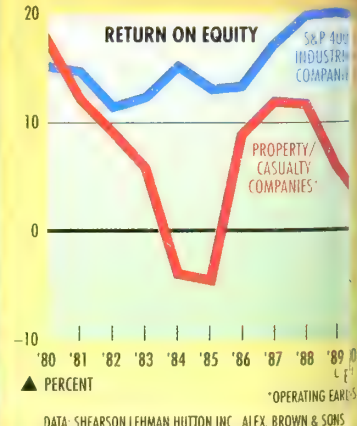
CASUALTY INSURERS ARE STILL GETTING RICHER...



...BUT PREMIUM INCOME SWINGS VIOLENTLY...



...AND PROFITABILITY IS FALLING FURTHER BEHIND.



Yet, says Washington attorney T. Vance Jones, Vagley's predecessor at AIA, "they've created a lot of their problems."

Insurance executives have long been known for their obstinate resistance to change and new ideas—a not surprising coming for individuals used to the stability of cartel life and whose business is predicting the future by extrapolating from the past. "They're the nicest, most honorable people in business," says Jones. "But they're not the most imaginative or creative."

They are, though, working on strategies to clean up their image and befriend their antagonists. "The industry's inclination is to say no, do nothing," says Jones. "We're trying to develop affirmative responses." But the outlook is not propitious, for the industry faces noxious changes:

Customers are rebelling. The revolt in California against soaring automobile-insurance rates last year culminated in voter approval of Proposition 13, whose sweeping reforms include a rollback in auto and other insurance rates. The fever is spreading. As many as 15 similar voter initiatives are possible in 1990, and 300 insurance-reform bills have been introduced in dozens of legislatures. Corporations are buying insurance in fa-

vor of do-it-yourself approaches, which are siphoning off a third of the property/casualty industry's premiums. "We have largely ignored and mistreated our customers," concedes Leslie Cheek III, head of Crum & Forster Insurance Cos.' Washington office.

■ The industry's political clout is crumbling. State legislators and insurance

As markets shrink and profits evaporate, the industry seems headed for a fierce shakeout

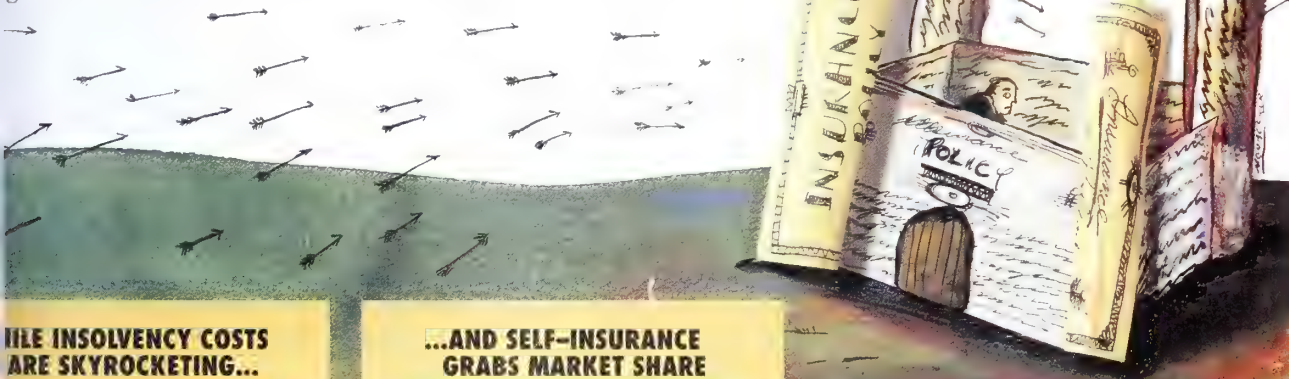
commissioners, once comfortably in the industry's pocket, are now more independent, even adversarial. In Washington, the industry has suffered some embarrassing legislative defeats. "They're losing control of their destiny," says Bruce A. Bunner, a partner at accounting firm KPMG Peat Marwick and former California insurance commissioner.

■ Some insurance markets face possible government takeover. The auto and health markets have become so dysfunctional, with

millions of people unable to get affordable coverage, that these markets may be increasingly assumed by state and federal insurance mechanisms. Insurance consultant Barbara J. Lautzenheiser sees "a real tendency toward socialization of all insurance."

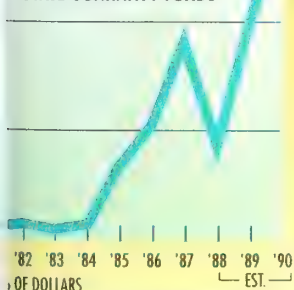
■ The cartel is dying. Competition has become vicious. "Soft" markets, when insurers often lose money underpricing each other, are more protracted, while "hard" markets, when companies can raise prices and rebuild balance sheets, are briefer. Critics are seeking to abolish insurers' antitrust immunity, which could make competition even worse.

■ Insurers' financial health is deteriorating. "There will almost certainly be a major shakeout, major insolvencies, and financial dislocations," says Robert H. Moore, senior vice-president of Alexander & Alexander Services Inc., a large insurance broker. Morgan Stanley & Co. analyst Norman L. Rosenthal foresees "a fundamental downsizing of the property/casualty industry." Life insurers also face shrinkage. While they have mostly escaped serious image-tarnishing, their profits are also under



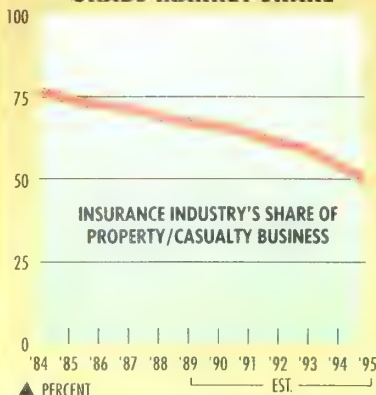
FILE INSOLVENCY COSTS ARE SKYROCKETING...

ANNUAL ASSESSMENTS ON INSURERS BY STATE GUARANTY FUNDS



SOURCE: OPPENHEIMER & CO., NATIONAL COMMITTEE ON INSURANCE GUARANTY FUNDS, BW

...AND SELF-INSURANCE GRABS MARKET SHARE



DATA: TILLINGHAST, A TOWERS PERRIN CO., BW

severe, perhaps irreversible, pressure.

The proximate cause of the property/casualty industry's traumas was the widely publicized liability-coverage crisis of 1984-86. After a six-year price war, insurers hiked some premiums several-fold. They refused to write or renew other coverage, which closed down facilities from jails to day-care centers. They blamed excessive liability litigation. But mainly, they had simply panicked, in typical herd-like fashion, when their profits sunk to new lows. Their actions set off a fierce public backlash—"retribution beyond the industry's wildest imaginings," according to Cheek.

JOLTING BLOW. Yet the roots of the industry's traumas extend back much further, to attitudes engendered by the insurance cartel, organized during the 1800s by fire insurers, forerunners of today's property/casualty companies. The temptation to slash prices has always been intense in insurance markets because insurance is sold primarily on price. To protect profits, insurers erected mechanisms to fix prices, stan-

dardize products, and share information.

In 1944, the cartel suffered a jolt—the Supreme Court held the industry subject to federal antitrust laws. But the industry flexed its political muscle and won passage in 1945 of the McCarran-Ferguson Act, which exempted it from antitrust laws so long as it was regulated by the states. McCarran left intact the cartel's price-fixing mechanism, a group of industry-controlled rating bureaus, most of which were consolidated in 1971 into the Insurance Services Office. The ISO issued "advisory" rates that were high enough to protect even the most inefficient concerns from insolvency.

The cartel began unraveling in the 1950s. Auto and homeowners insurance came to be dominated by large "direct writers" such as State Farm Mutual Automobile Insurance Co., with in-house sales forces. They underpriced other insurers that sold policies through vast networks of high-commission independent agents. The agency writers were forced to discount ISO rates.

Commercial insurers followed ISO until

the 1970s, when supply and demand came badly imbalanced. On the supply side, the cartel, like all cartels, had chronic excess capacity and excess membership. Returns on equity around 25% a year started enticing billions of dollars of new underwriting capacity, especially from the booming London market, where insurers lay off some of their risk with reinsurers.

Demand growth, meanwhile, was already slowing. Increasingly sophisticated corporate risk managers began insuring themselves. Companies, industry groups, even municipalities and non-profits set up alternative facilities such as their own "captive" insurers. According to the Tillinghast division of Tower Perrin, Forster & Crosby, a consumer firm, the alternative market now has a 35% market share, depriving insurers of \$50 billion in annual premiums. By 1990, Tillinghast projects, the alternative share could reach 50%.

Insurers could not have forestalled the alternative market. But they are to blame for its rapid growth. In hard

AIG THRIVES ON BUSINESS OTHER COMPANIES WON'T TOUCH

Shanghai's teeming port drew many a dreamer and adventurer at the century's turn. One enterprising American, 27-year-old Cornelius Vander Starr, founded an insurance company in a two-room office in 1919. Only in 1926, by which time he had offices throughout the Far East, did Starr open a New York branch. That's a circuitous origin for what evolved into American International Group Inc., the largest shareholder-owned commercial insurance company in America. But then again, AIG is unlike any other U.S. insurer.

'GENIUS.' While most ignore overseas markets, AIG operates in more than 130 countries. As many American rivals posted anemic returns, AIG earned an average return-on-equity of 18% this past decade by cannily exploiting less popular markets and keeping a tight check on costs. While its rivals mostly sell commodity products, AIG excels in exotic niche markets—all for a pretty penny.

The company's success clearly bears the stamp of Maurice R. "Hank"

Greenberg, its tough, combative chairman, president, and CEO. A trim, fit New Yorker of legendary discipline, he took the helm from Starr in 1968, when AIG's net income was \$17.2 million. Its stock market value the following year,

after going public, was some \$285 million. In 1988, AIG earned \$1.2 billion, and the company's market value is now \$15.5 billion. Says New York State Insurance Superintendent James P. Corcoran: "The guy's a genius."

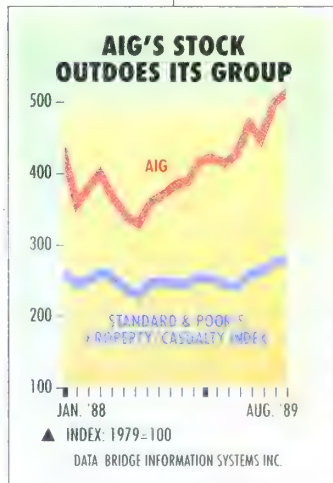
As with Michael R. Milken on junk bonds, when the 63-year-old Greenberg talks insurance, people listen—if uncomfortably. Charming and wryly humorous, Greenberg can turn acerbic when holding forth on common industry practices, such as lax underwriting standards. Indeed, says an insurance broker, he's "widely loathed" by his peers, regarded as a brilliant loner who refuses to join major industry trade groups or schmooze with competitors. Greenberg, often trotting the globe, runs an entrepreneurial, high-stress workplace. For executives who can

hack it, the reward is a slice of management's 31% stake in AIG, with Greenberg alone owning or controlling stock worth \$670 million. Says T. Lawrence Jones, former head of the American Insurance Assn.: "Greenberg is the only man to make an absolute fortune in insurance over the last 20 years."

He did it by taking risks others shun. Although AIG sells a broad range of insurance products, "we look for markets without a lot of competition," says Thomas R. Tizzio, vice-chairman of AIG's North American property-casualty business.

ONLY GAME IN TOWN. Among its specialty products are liability insurance for directors and officers, coverage is flogging in Europe as deal makers sweep the Continent, and for professionals, mostly lawyers and accountants. AIG's trademark is seizing opportunities, says Jones, recalling that during the difficult market of the 1970s, AIG's directors and officers policy was the only one the trade group could buy. Currently, the company is among a handful selling tailor-made pollution liability policies.

For its multinational clients, AIG often underwrites worldwide coverage. Unlike other U.S. insurers, it has long provided services and backstop coverage to the offshore "captive" insurers since the movement's early



they acted as if buyers had
here else to go, jacking up
es and walking away from
that seemed unattractive.
eir heavy-handedness really
ed off a lot of their clients,"

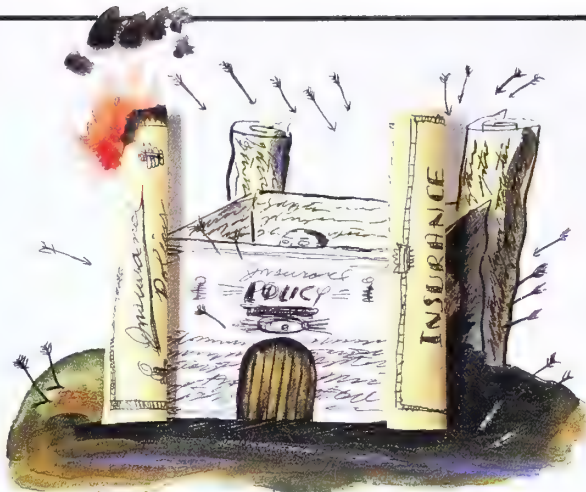
Richard C. Heydinger, risk
ager for Hallmark Cards
Now, hundreds of major
panies and large portions of
stries such as pharmaceuti-
and chemicals are self-ind.
After the industry all but
adoned the medical-malprac-
market in the 1970s, doctors
hospitals set up their own
rance vehicles. Insurers have
e little headway trying to re-
market share. ISO President Fred R.
con concedes that most of the busi-
lost is "gone forever."

urers for years ignored the alterna-
market, refusing, for instance, to
with captives. Insurance brokers,
gh, created a lucrative business by
ng to set up and manage captives.
urers' belated efforts to offer ser-
to captives have not been very suc-
ful. "They could have been the lead-

s. And AIG is comfortable creating
kets. For instance, it plowed new
und starting in 1979 by entering
t ventures with East Bloc nations.
a classic Greenberg move to take
antage of others' ineptitude, AIG is
ut to expand its minor presence in a
abled Main Street business—auto
insurance. It aims to tap the latest
keting and servicing techniques to
l down expenses while reduc-
claims costs through other
vations—including possibly
own repair shops. "We expect
e a major underwriter of the
iness in the future," says
enberg.

financially, however, AIG is
servative. It tries to earn a
the old-fashioned way in in-
surance—through underwriting
its. Its executives are almost
-like in their insistence that
niums be high enough to re-
a policy's risk. "Expecting
stment income to bail you
is a dangerous game," says
-Chairman Edward E. Mat-
vs. AIG can also compete
without lowballing rates since it's
ghtwad company. It is a low-cost
lucer with an expense ratio of
at 20%; most competitors have a
of around 30%.

BAL ROOTS. The company's global
ork comes directly out of its for-
origins. AIG shifted headquarters
a Shanghai to New York only in
. In sharp contrast to its U. S. com-



ers," says Charles L. Ruoff, head of
strategic planning at Fred S. James &
Co., a large insurance broker. "But by
the time they got interested, the ship
had left the dock."

The business that insurers are losing
to alternative markets tends to be their
best business. The reason is a pernicious
process known as "adverse selection."
Companies with low insurance risks tend
to insure themselves, while risk-prone

companies tend to buy insurance.
And the risks that self-insurers
retain tend to be their most pre-
dictable, such as workers' com-
pensation. They go outside main-
ly for high-risk coverage, such as
the catastrophic loss of an off-
shore oil rig. "The insurance in-
dustry is being left with a much
worse book of business," says
consultant Barbara D. Stewart.
A few venturesome insurers, no-
tably American International
Group Inc. (box), developed the
skills to handle new, tough risks,
on which they make big profits.
Most companies, though, chase
the shrinking supply of routine

low-risk business, exacerbating overca-
pacity and competition.

The alternative market and growing
overcapacity have made insurance cycles
hazardous. Hard and soft markets each
used to last about three years. But the
soft market that began in the late 1970s
was the longest (six years) and deepest
in history. And despite the sharp price
hikes, the latest hard market was about
the shortest (18 months). Aggravating

petition, some 31% of its property/casualty operating profits and 93% of its life insurance operating income were generated overseas in 1988. About 65% of all pretax earnings came from foreign markets during the past 11 years. "We understand doing business globally," says Greenberg. "We feel comfortable in any part of the world."

AIG's foreign operations are a source

Inc. In anticipation of Europe 1992, AIG recently restructured its Continental operations by replacing 13 different national companies with a new one, Paris-based UNAT. AIG is expanding into financial services and is already a factor in such markets as international interest-rate swaps and overseas merchant banking.

ONE-MAN SHOW. Although it's still able to turn a profit selling life policies in Beirut, some of AIG's foreign adventures do go sour. After years of struggle, AIG finally broke into the South Korean life market, but business is moribund with half its agents out on strike. And while it's still insuring foreign interests in China despite the Great Leap Backward, hopes for expanding into the domestic market of AIG's historic homeland have dimmed for now. Back in the U.S., even AIG's earnings machine will sputter if price-cutting in the commercial market continues. Wall Street is edgy, too, about the lack of an obvious corporate heir to the dominating Greenberg.

Still, Greenberg is confident that AIG is set to make the most of the upheaval he sees racking the property/casualty business these next few years. After all, in China, AIG's birthplace, the word crisis is made up of the characters for danger and opportunity.

By Christopher Farrell in New York, with bureau reports



GREENBERG IN BUENOS AIRES: AT HOME ABROAD

of stable profits, with income from many less competitive markets, especially in fast-growing Southeast Asia, offsetting the earnings drag from vicious pricing cycles in the U.S. In Japan, AIG is a strong niche player, ranking third in personal accident insurance, for one, and is about to expand there through a new company closely tied to Japan Travel Bureau



"IT'S A HOLOCAUST," SAYS VAGLEY OF THE AMERICAN INSURANCE ASSN. "THEY'RE IN A PANIC," SAYS CONSUMER ACTIVIST HUNTER

the severity of recent cycles has been a big shift in the industry's business mix. Once it wrote mainly property coverage, where claims are made soon after an accident. Now it mainly sells liability coverage, where damages are less predictable and often do not surface until years after a policy is written. And while property loss costs have been dropping, liability costs keep rising. Still, with claims costs so far off and uncertain, many insurers feel less inhibited in cutting prices, often recklessly.

Life insurers for years avoided the competitive havoc of their property/casualty brethren. They had something of a cartel of their own. Everyone followed the pricing lead of the large Eastern mutual companies. They grew fat on the wondrous creation known as whole life, with its huge spread between the niggardly yield to policyholders and the lush return on insurers' investments.

Double-digit interest rates in the early 1980s wrecked the business. Customers bought cheap term insurance and defected to high-yield investments offered by banks and mutual funds. Insurers were forced to counter with market-rate products such as universal life. Their spreads are now so wafer-thin that some big players such as Cigna Corp. and Travelers Corp. are sharply reducing their life business.

COALITION FOR CHANGE. The already badly battered property/casualty cartel, meanwhile, faces further damage. Last year, 19 states filed suits alleging that 32 insurance defendants conspired, starting in 1983, to restrict the availability of commercial-liability coverage, mainly by altering the terms of the industry's most widely used policy. The suits say the

defendants used acts of "boycott, coercion" and "intimidation," which are excluded from the McCarran-Ferguson Act's antitrust immunity. The alleged aim was to end the price war by limiting supply. According to the states, this was "an important contributing factor" to the liability crisis.

A federal judge recently said he intends to dismiss the litigation on the grounds that the defendants' actions were immune from prosecution under McCarran. Such a ruling, which will be appealed by the states, would likely intensify the already broad political assault being mounted against McCarran.

National health insurance has always been a political long shot. But corporate backing could change that

Congress is considering several bills that, while allowing some joint activities, would sharply modify the act. To industry critics, McCarran symbolizes the industry's privileged status.

Consumerists, many of whom consider insurance reform their top priority, have put together a formidable coalition that includes groups representing women, minorities, labor, senior citizens, and small business. They have even enlisted the influential American Bar Assn., many of whose members resent being blamed by insurers for causing the liability crisis.

Once, such a coalition would have

been no match for the insurance lobby. But now, says a Capitol Hill staffer, insurers "don't have anybody on the side." State insurance commissions and legislators are distancing themselves from the mud-splattered industry. Insurance brokers, once close to insurance executives, are now loyal to corporate risk managers.

WANING POWER. Insurers' most powerful allies have been the 150,000 independent insurance agents who, says a lobbyist, are "the industry's shock troops." Aided by fat PAC budgets, they have intimidated political connections at the state and federal level. Officially the agents belong to McCarran. However, says Dennis Jay, spokesman for the National Association of Professional Insurance Agents, "we're no longer following with blind faith what the big carriers want."

Signs of the industry's waning political power are abundant. In what AIA's Vagley calls "a major defeat," the industry failed to derail the 1986 Liability Risk Retention Act, which made much easier for businesses to self-insure. Vagley has been quietly exploring a compromise on McCarran. "A number of our members feel its benefits are outweighed by the political mischief it creates," he says. The ISO, meanwhile, recently announced that next year it will stop issuing advisory rates and instead estimate future losses and related costs. Insurers will then have to factor in their own projections of profits and overhead. While critics claim that ISO figures will still facilitate price-fixing, the move is likely to heighten rate competition.

Some of the industry's most important markets face an even more serious threat: government takeover. The real

ig shift in society's view of
n kinds of insurance. Af-
ole auto and health insur-
s now seen less as a volun-
option than as a necessity,
an entitlement. Insurers,
h, don't want to sell afford-
insurance to everyone. They
rately discriminate. They
re people thought to be
risks relatively low rates.
isks, who are often poor,
charged high premiums, re-
ess of whether they can af-
t, and they may be denied
age altogether. The result:
ns of Americans with little
insurance.

es M. Stone, former Mas-
setts insurance commis-
sioner who now runs a small auto insur-
ance company, says the insurance industry "should
have taken the initiative" and worked
with the government to develop a mix of
public and private mechanisms "to make
its products more available and af-
ordable to all." Instead, the industry
ignored the problem. It paid little heed
to loss prevention and simply passed
the costs on to customers. Now, the auto and
health markets are in such disarray that
regulators are growing for government
coverage for everyone.

Auto insurance, which produces 42%
of the property/casualty industry's vol-
ume, has the impetus for socialized insur-



ance stems from relentlessly rising
claims costs and public pressure on state
regulators to keep premiums low.
Plagued by losses, some insurers are
leaving the auto business. Others are
turning down more bad risks. In large
urban states with the highest costs and
premiums, notably New Jersey and Mas-
sachusetts, drivers who can't afford or
get insurance are relegated to "residual"
markets of last resort subsidized by
insurers and states. New Jersey's state-
run residual market has half the state's
autos and a \$3 billion deficit.

Auto insurers are now pushing such
measures as broader no-fault laws and

cheap no-frills policies. But some
observers feel these solutions do
not go far enough. "If this situa-
tion continues," says Crum &
Forster's Cheek, "I don't see any
alternative to a government
takeover." As states have to foot
more of the bill for the bad risks,
observers feel, some will want to
insure all motorists. With monop-
oly power, they could control
costs and subsidize poor risks
with premiums from good ones.
States that don't socialize will
still likely continue to subject in-
surers to low-return, utility-type
regulation.

The outlook for health insur-
ers is also grim. Their market is
already a patchwork of public
and private systems. In theory, it makes
sense: private insurers, mainly life com-
panies, who get a third of their premi-
ums from health, serve the good risks
who can afford to pay. Through medi-
care and medicaid, the government sub-
sidizes coverage for the old and poor.
Nonprofit Blue Cross/Blue Shield helps
the government by selling coverage to
all comers.

MINIMUM STANDARDS. But this arrange-
ment is breaking down. Government pro-
grams have become more restrictive and
cover a declining portion of the needy.
And the loss-plagued Blues are target-
ing better risks. This is raising the num-

VERMONT: LAND OF GREEN MOUNTAINS AND SELF-INSURANCE

Montpelier, Vt., with its gold-
domed capitol and tall-spired
churches, makes an unlikely
quarters for 163 "captive" insur-
ance companies. These are paper vehicles created
by corporations, industry groups, and
individuals that have opted to finance
their own risks. Instead of sending
business to an outside insurer, companies
in Vermont route them
usually to specialized claims-pro-
cessing companies. No fuss, no muss,
no surprise premium hikes.

fly-by-nighters either. Among the
corporations with Vermont captives
are R&T, Hewlett-Packard, and Citi-
group. Montpelier also hosts the largest
number of risk-retention groups—in-
cluding buying pools enabled by Con-
necticut in 1986 for groups such as law-
firms who find it tough to get coverage.
Vermont, the state of map-
le and ski bums, now rival Ber-
lin as the longtime home of corporate
captives? Because image-conscious
companies wanted a base free of any
negative, tax-ducking connotations. In
Montpelier, Edward Meehan, director of cap-

tive insurance at the
state Banking & In-
surance Dept. in
Montpelier, and insur-
ance broker H. Lin-
coln Miller began
transforming Vermont
into a haven for cap-
tives. State legislation,
in 1981, included low
initial capital require-
ments, an annual au-
dit, and a hefty dose
of self-regulation. Re-
sult? Vermont is now
home to twice as
many captives as all
other states combined.

A BOON. Vermonters
benefit, too. Last year,
the state collected some \$4 million in
taxes on premiums. And the business
has created more than 100 jobs—not
bad for a state with only 500,000 resi-
dents. But most significant, says Mee-
han, is the required annual board meet-
ing, a boon to the tourist trade. "The
boards of directors come for two or



TINY MONTPELIER IS HOME TO 163
CAPTIVE INSURANCE COMPANIES

four days, they stay in
the best hotel, do
some skiing or the fo-
liage thing in the fall.
It really helps the lo-
cal economy," he says.

Other states, jeal-
ous of Vermont's suc-
cess, are trying to at-
tract captives. But
Vermont is staving off
the competition with
its telling combination
of attractive laws, ef-
ficient insurance de-
partment, and plenty
of skilled insurance
professionals.

Meehan expects two
new giant captives,
with over \$100 million in annual premi-
ums each, to open this year. And "just
wait until the next [insurance] crisis,"
says Charles Tagman, a principal with
consultants Tillinghast in Boston. "The
number of captives could triple. Ver-
mont will be the mouse that roared."

By Laura Jereski in Montpelier, Vt.

ber of people without coverage, now 37 million. Many hospitals treat the uninsured but then inflate bills for clients who are able to pay, mainly employers. To arrest skyrocketing costs, which have resisted years of containment programs, 60% of all large employers self-insure. Most insurers serving the rest have been operating in the red. They've been unable to raise rates fast enough to keep up with cost inflation. They're losing market share to "managed care" facilities such as health maintenance organizations. And they're losing big money on their own HMOs.

Things could get even worse. Ohio and several other states are considering state-run health plans. In part to avoid picking up the tab for the uninsured, many large employers such as Chrysler Corp. and American Airlines Inc. now support a federal plan. National health insurance has always been a political long shot, but corporate backing could change that. A federal system would not necessarily threaten insurers. Their role, for instance, would be preserved under a bill sponsored by Senator Edward M. Kennedy (D-Mass.) that would impose minimum standards on employers and guarantee similar coverage to others through medicaid.

But critics, including many physicians, claim the best, maybe only, way to control costs and make sure everyone is



MORE COMPANIES ARE DOING WITHOUT COVERAGE—EXCEPT FOR CATASTROPHES

covered is to make the government the sole payer. They cite as a model Canada's tax-financed national health system, which is far less expensive than that of the U.S. Insurers claim its quality is inferior. Still, only 3% of Canadians favor a switch to a U.S.-style system, while 61% of Americans would prefer the Canadian system, according to Louis Harris and Gallup polls.

THIN MARGINS. Socialized health insurance would usurp insurers' underwriting business, except for excess coverage not

provided by the government. Insurers could serve as administrators, much as they do today for corporate self-insurers. But they would face heavy competition from the Blues and noninsured administrators. And they would lose income from premium investment. Says David F. D'Alessandro, head of health for John Hancock Mutual Insurance Co.: "Processing margins are very thin. It's not a very good business."

Over the next few years, companies with thin margins may consider themselves lucky, for they will at least be alive. That may not be the case for others, even hundreds, of their competitors.

On the surface, the property/casualty business looks fit. The 1984-86 price hikes, coupled with investment gains from the booming stock and bond markets, boosted the industry's surplus net worth, to \$117 billion. From a \$1 billion loss in 1985, net income jumped to \$12.8 billion in 1988.

But appearances are deceiving. The quality of the policies that the industry is writing is deteriorating. Price-cutting is rampant. To compensate, insurers are skimping on reserves for future claims. As a result, says Shearson Lehman Fenton Inc. insurance analyst Udaya Ghose, current earnings are "grossly exaggerated." Earnings, further, do not reflect the danger that insurers will never be able to collect on claims against

STATE FARM'S HUGE HARVEST IN AUTO INSURANCE

Edward B. Rust Jr. owns a soybean and cattle farm near Bloomington, Ill. But when a hail storm hits, he worries less about beans than about cars—millions of them. That's understandable: As CEO of State Farm Mutual Automobile Insurance Co., he covers more cars than anyone else. State Farm's 20% market share dwarfs arch-rival Allstate Insurance Co.'s 12% stake. Rust, the third generation of his family to head the company, runs a juggernaut that sells good service at a fair price.

As a "direct writer," State Farm sells auto policies through its own 17,000 captive agents, who get 10% commissions, compared with the 15% rate for independent agents. That helps hold State Farm's expenses to 17% of premium income, against the 30% average for companies using independents. Lower expenses permit lower premiums, and direct writers now control 63% of the auto market.



RUST: SELLING LOW-PRICE POLICIES TO LOW-RISK DRIVERS

The State Farm group, true to its Midwest farm roots in the 1920s, sticks to the basics. It supports its well-trained agents with a handful of carefully designed products, including auto, life, and health policies, a reputation for processing claims fairly and fast, and a "Good Neighbor" national advertising campaign. Agents, in turn, pay their own expenses. Although the com-

pany denies it, competitors say that State Farm "creams off" the best drivers.

Still, auto insurance is a tough slog these days, even for State Farm. Dragged down by \$1 billion in underwriting losses, its auto earnings fell 31% last year to \$720.6 million. Rust says 1989 results will be worse. It also faces a policyholder lawsuit backed by the Citizen Action consumer group, alleging that State Farm's conservatism and shortchanged policyholders on dividend payments by putting twice as much into reserves as

the industry average. State Farm says this is only prudent. "When it comes to claim time," Rust fires back, "customers don't want an IOU."

Weep not for State Farm, however. As direct writers drive others out of the auto insurance business, the market could become more like an oligopoly—with State Farm ruling the roost.

By David Greising in Bloomington, Ill.

fly-by-night reinsurers who popped during the last price war. That hit, Oppenheimer & Co. analyst Myron Picoult, could be \$16 billion. Losses from insurer insolvencies are only escalating. The eventual tab for liquidations could be as much as \$1 billion, much of which will have to be picked up by state guaranty funds rewritten by solvent insurers. For Colorado Insurance Commissioner Kezer has called the problem "growing, and...unchecked." A review of three failed casualty companies representative John D. Dingell (D-Mich.) and his oversight and investigation-subcommittee revealed, he says, "a mix of incompetence, greed, self-deception, and fraudulent activity." These practices, coupled with weak regulation, he said, "are disturbingly similar" to those that produced the S&L crisis. "The insurers are not in much better shape. Many have been subsidizing losses on new universal-life products with profits from old whole-life policies. They are precariously leveraged, and the quality of some of their investments is dubious. 'There are many companies in deep, fundamental trouble,' says Robert McDonald, chief executive officer of CNA, a Minneapolis life company. 'They would be scared if they knew what was happening.'"

EARTHQUAKE? A wave of insurance losses could have a domino effect. It could overwhelm often weak and underfunded state regulators, drag down rating agencies, and ultimately bring federal regulation. Many analysts expect a hair-curling shakeout is inevitable and would even be salutary, to cut out overcapacity and other inefficiencies still burdening the dying cartel. The industry would end up smaller but with a chance to rebuild its health. Looming down the road may be big hits for property/casualty insurers that could make overcapacity look like a fender-bender claim. If courts turn decisively against them, they could get stuck with much of the \$1 billion cost of cleaning up Superfund toxic-waste sites. A worst-case Los Angeles earthquake could sock insurers with a \$60 billion bill. Says Tillinghast President H. Felix Kroman: "You're going to see a sequence of events that could topple the whole industry."

There isn't much insurers can do to avert the quake but pray. There is a lot they can do to arrest their slow slide into permanent eclipse. It would require a heavy dose of enterprise, imagination, and hustle—in short, a cultural revolution. But if insurers are to regain their place close to their former power and glory, they have no other choice.

Chris Welles and Christopher Farrell
in New York, with bureau reports

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CORPORATE AMERICA WANTS OUT FROM UNDER ITS JUNK PILE

With interest rates dropping, every company that can afford to is buying back high-yield debt

Interest rates are coming down, with one big exception: junk bonds. So it's de-junking time in Corporate America for just about any company that can afford it. Tired of paying humongous interest rates, corporate borrowers are increasingly buying back their junk bonds and replacing them with cheaper financing.

Look at Tele-Communications Inc., the Denver-based flagship of cable czar John C. Malone. TCI took a trip to the junkyard only last October to finance a shopping spree for still more cable television systems. It already has launched a tender offer to retire its \$450 million in 11.1% bonds. For a junk issue, that's not an egregious rate. Even so, TCI will save \$7.5 million yearly by switching to bank borrowing and privately placed bonds, both at around 9.5%. "The difference is hard to argue with," says Bernard Schotters, vice-president for finance.

Junk bonds, which are euphemistically known on Wall Street as "high-yield bonds," are debt securities judged below investment grade by the rating agencies—usually meaning their issuers have borrowed so heavily that an economic reverse could choke off their ability to service the debt. To entice leery investors, they pay sizable coupon rates—which is more pleasant for investors than for the issuing companies.

So the explosion in junk bonds is flaring out. While many companies are still resorting to new junk issues, others are reducing their load of junk bonds as fast as they can. Even after a \$5 billion clump from the RJR Nabisco deal, new issues are coming along at an annual rate of only \$31.5 billion this year. That's slightly above 1988's \$30 billion and sharply below the \$40.2 billion peak in 1986, according to Securities Data Co. But redemptions are running at a record \$14 billion annual rate, up from \$11.2 billion last year (charts).

Certainly, for those with good cash flow, now is an opportune time to get rid of the junk burden. One believer is Union Carbide Corp., which loaded up on debt three years ago to discourage a GAF Corp. raid. It is reporting robust earnings lately and is expected to re-

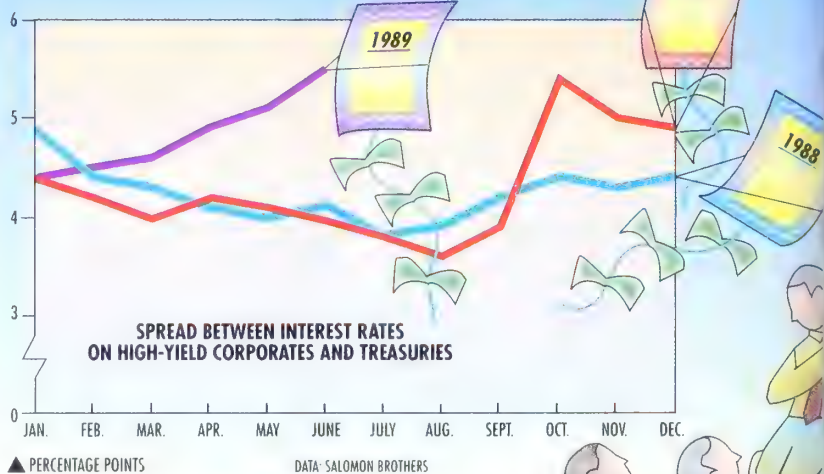
deem \$67 million worth of junk in January. "Only the strong companies will be able to de-junk," says James Sawyer, Carbide's manager of capital markets.

READY, SET... The "call calendar" is another factor propelling de-junking. The big leveraged buyouts of the mid-1980s had provisos permitting issuers to repurchase bonds only after three to five years—and the alarm clocks are starting to ring. "Companies will be doing this as soon as call dates come around," says Sawyer.

tasty yields, won't part with the pie otherwise. "When you take away the turns that good, you had better pay a fair price," says Richard Lehmann, president of the Bond Investors Association, a 14,000-member advocacy group for individual investors.

For LBOs, retiring junk is normal two-stage process. First, they sell pie of the company to fund an initial junking and to pay off loans from banks which often insist on being first in line for debt repayment. Then, improve-

AS JUNK BOND FINANCING GROWS COSTLIER...



That's no exercise for the fainthearted or slim-walleted: To entice investors into parting with their high-paying bonds, issuers almost always pay a premium. Typically, the initial bond agreement commits them to paying 2% to 6% above face value. Eager de-junkers such as TCI, who make a tender offer to buy back their bonds even before the call date, often pay premiums above the market price. In its case, TCI is willing to pay the \$1,000 face value for bonds selling between \$950 and \$960.

Junk bondholders, happy with their

cash flow and credit ratings permit them to borrow more cheaply to buy back the rest of their junk bonds. Shortly after being sold to an investors' group in 1987, Borg-Warner Corp. raised money by selling its chemical business to GenCorp Electric Co. and its commercial financing arm to Transamerica Corp. This allowed it to eliminate \$2 billion in bank debt. Then, late last year, Borg-Warner borrowed anew from banks at 11.5% to deep-six its \$1 billion in junk bonds that were costing it 13.5%.

Some companies with little choice

remaining with junk try to make it painful. Turner Broadcasting System Inc. has a truckload of high-yield coming due that analysts expect it to refinance with new junk—though at higher rates because it looks like a better bet now. With Turner's cash flow and ratings on the upswing, Standard & Poor's Corp. last April upgraded Turner's paper from B to B+. Bank loans are cheaper. But Margaret Eagle, portfolio manager for Fidelity Investments High Income Fund in Boston, expects the company to go for junk again. Turner needs longer-term debt to strengthen its finances.

Y AURA. Bank loans and investment-grade corporate debt are getting costlier. The Federal Reserve Board warned that the economy not plunged into recession, has been lowering rates in spring. But junk's link to Fed action is tenuous. It doesn't behave like bonds because of its greater vulnerability to hard times. So while Treasuries and prime corporates are down to 8% from peaks of about 9.5% in 1981, junk bonds have barely budged.

High-yields are in such ill repute that de-junking has become federal policy for savings and loans

Financial Institutions Inc., it proudly announced that no junk bonds were involved. Only as the contest with Time Inc. over Warner escalated did Paramount resort, sheepishly, to junk to sweeten its bid.

The sensitivity about junk has been heightened by junk's association with the scandals that have rocked Wall Street. Several junk players have been convicted, and Michael R. Milken, the father of the high-yield movement, awaits trial on various securities-law charges. Beyond that, a recent spate of bad news has made junk-heavy companies look even more speculative than

and loan rescue act which President Bush signed on Aug. 9, thrifts must phase out their junk holdings by mid-1994. Voluntarily, some insurance companies are weeding the shakier junk from their portfolios. "We're still in the junk market, but for bonds with lower yield and lower risk," says John D. Brookmeyer, senior managing director of Prudential Insurance Co.'s Capital Management Group.

In this climate, one investment group has even made a business out of antipathy to junk debt. Lazard Frères & Co. sponsors a fund called Corporate Partners that injects fresh equity money into companies that just say no to junk. "We're talking to companies that want to get off the junk-bond nut with the help of a friendly equity holder," says Lester Pollack, the partnership's chairman. One taker was Polaroid Corp.: Instead of plunging deeper into junk, it had Corporate Partners help it finance a stock buyback to thwart a takeover attempt last winter by Roy E. Disney.

Fueling the flight from junk is fear that a recession is no longer a threat too remote to matter. Junk has come into its own only since the last slump, in 1981-82. "We're reaching a crossroads because the junk-bond market never has been tested," says Frederic S. Mishkin, a business professor at Columbia University. "No wonder people are nervous."

As long as these jitters keep high-yield bonds living up to their name, companies that issued them as a necessary evil will seek escape—and in growing numbers as call protections expire. "You would expect it," comments Joseph Bencivenga, co-head of junk research for Drexel Burnham Lambert Inc. "The high-yield market is getting older." And perhaps wiser.

*By Larry Light,
with Leah J. Nathans,
in New York*

COMPANIES ARE PULLING BACK FROM INVESTORS...

REDEMPTIONS OF CORPORATE HIGH-YIELD ISSUES (BILLIONS OF DOLLARS)



DATA: DREXEL BURNHAM LAMBERT INC., BW

...AND THESE ARE LEADING THE PACK

Company	Amount of issue Millions	Interest rate Percent	Status
BEATRICE	\$1,445	11-12¾%	Tendered in January, 1989
BORG-WARNER	1,000	13½	Tendered in December, 1988
TELE-COMMUNICATIONS	450	11⅞	Tendering now
TURNER BROADCASTING	200	12⅞	All are currently callable. Refinancing expected in 1990
	738	10¼-14	
UNION CARBIDE	67	13¼	Call is expected in January, 1990

DATA: BW

still average about 13.5%, with of the riskiest yielding as much as the spread between junk and Treasuries wider than ever (chart). Rising interest rates aren't the reason junk wears out its welcome from investors. It's also a matter of image. "If corporations simply don't want known as high-yield issuers," observes J. Michael Pokorny, vice-president of Delaware Management Co., a Philadelphia investment house. When Mount Communications Inc. reissues its first bid for Warner Communi-

usual. Junk defaults are running at about \$3.2 billion so far this year, compared with \$4 billion for all of 1988. Several junk-heavy enterprises, such as Dart Drug Stores Inc., Integrated Resources Inc., and Southmark Corp., have taken well-publicized financial pratfalls.

High-yields are in such ill repute that de-junking has become federal policy for thrift institutions. Under the savings

WELLS FARGO HEADS FOR THE WILD, WILD EAST

A Nikko deal gives its investment unit a toehold in Tokyo



CEO GRAUER:
PICKINGS ARE
SLIM IN THE U.S.

Stocks may be steaming this summer, but the 17th-floor trading room at Wells Fargo Investment Advisors looks cool and calm. The folks at WFIA, one of the nation's largest pension fund managers, don't worry about catching the next takeover or whether it's time to buy cyclical stocks. They manage index funds—portfolios that match the performance of the Standard & Poor's 500-stock index, for example—and as long as their funds track the market average, these managers are earning their keep.

True, total assets are back to the pre-crash high. But all is not well. In the first six months of this year, the S&P 500 was up 17%, while WFIA's S&P index fund assets increased only 12%. Why? Returns matched the market, but clients pulled out more than \$1 billion. So the money-management unit has set its sights on the \$1 trillion Japanese pension market. And to ease the way, it has a Japanese partner in tow. In early summer, Wells Fargo & Co., WFIA's parent, sold half of the unit to Japan's Nikko Securities Co. for \$125 million. Frederick L. A. Grauer, the 42-year-old Stanford University PhD who has run the unit since 1984, thinks the Nikko connection will bring in \$10 billion to \$15 billion in assets over the next five years.

That may not seem like much for WFIA. The company has over \$27 billion

in the S&P index alone, and its remaining \$43 billion is split among small-stock, foreign-stock, and bond-index funds. Pension plan sponsors rushed to this "passive" investment strategy in the mid-1980s when their high-priced "active" money managers couldn't keep up with the rising market indexes. But the big gains in its domestic pension business are probably behind it, and Wells already has a 33% share of the U.S. index fund business.

ONE-MAN JOB. Part of the fall-off is the result of pension plans dropping out of stocks. But perhaps more far-reaching is the competition from computers that let big pension plans run index funds themselves. "The technology is there. Even an individual could manage an index fund," says Jim Biundo, executive director of trust investment management at U.S. West Inc., which launched its own \$900 million index fund earlier this year. And that's not all. The New York Stock Exchange is awaiting the SEC's O.K. on a proposal that would enable investors to buy a basket of S&P 500 stocks in one transaction, a portfolio worth about \$5 million. That could also pose competition for indexers. Management fees on the basic S&P 500 fund are already as low as

0.02%, or a minuscule \$20,000 a year on \$100 million worth of stock.

That's why the Far East looks so enticing. Total pension assets in Japan are growing at about 10% a year, vs. 3% in the U.S., and index investing there is still in its infancy. To start, WFIA plans to open a 20-person office in Tokyo. Even with its connection to Japan's No. 3 broker, Wells faces intense competition from some 150 foreign and domestic firms that have applied to become investment advisers in Japan along with the trust banks and insurance companies that have long dominated the business.

All told, some pension executives wonder if Wells didn't get the better of the deal. WFIA earned only \$10 million last year. Still, in investment management circles, Wells Fargo's name carries clout. "It's always good if you can exploit a brand name," says WFIA alumnus Wayne H. Wagner, a partner at Plexus Group, a Santa Monica (Calif.) consulting firm. And U.S. brand names are often big sellers in Japan. **VAST ASSETS.** The Japanese beachhead will also help Wells Fargo build its U.S. index funds, already the fastest-growing part of the business. Once

up, index funds don't have to do much trading. That makes them particularly appealing overseas, where trading costs are high and stocks are more liquid than in the U.S.

In search of higher management fees, WFIA has also developed several three dozen investment programs that build on the index concept. The firm also customizes funds to a client's investment

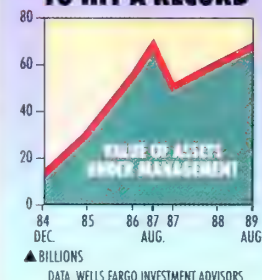
objectives. And the indexers have pushed the concept beyond large-cap equity stocks. Today, some 30% of U.S. equity holdings are stocks not in the S&P 500.

Central to WFIA's operation is a highly efficient computer system that keeps all funds on track with the underlying indexes. It takes only eight traders to make 32,000 transactions per month. And the assets under WFIA's care are so vast that traders can execute 70% of stock transactions by matching up buying and selling needs of its clients, eliminating the need to go to a broker.

With large fixed costs in computers and software, most of the additional income should drop to the bottom line and bolster profitability. "Bigger is better," says Grauer. "That's what made the deal [with Nikko] click."

By Maria Shao in San Francisco

WELLS FARGO: TRYING TO HIT A RECORD



YOU JUST CAN'T KEEP D THORP DOWN

s rising from the ashes of the Princeton/Newport debacle

Edward O. Thorp has hung a photograph of Rudolph Giuliani on the wall of his office in Newport, Calif. It's not a gesture of affection. The picture is a dart board. Thanks to indictments obtained by the former Attorney General a year ago, on July 31 of Thorp's colleagues at the Princeton/Newport Partners investment firm convicted of securities law violations and of running afoul of the Racketeer Influenced & Corrupt Organizations law.

But while his former partners await possible jail sentences, life goes on for Thorp—and the remnants of his old firm. His own reputation intact, Thorp, 56, has established a money management firm, Edward O. Thorp Associates, that over the past eight months has attracted some \$165 million in assets, much of it from the clients that flocked to Princeton/Newport for the high returns that he achieved year after year. So far, 23 clients have signed on.

HEDGING FORMULA. As in the 1960s, the main lure is his formula. A former University of California professor and mathematical genius whose success made him a non grata in some Las Vegas casinos in the 1960s, Thorp was the brains behind the trading strategies that made Princeton/Newport so successful. Like most money managers who

shorted stocks, however, Thorp has been unable to enjoy the full benefits of the recent market surge. To date this year, his firm's portfolios have gained 4.4%, vs. 26% for the Standard & Poor's 500 stock index. But Thorp was only able to obtain the rights to his proprietary trading system on June 1, and since then the firm has gained 4.4%, still way under the S&P. Over the long term, however, Thorp has beaten the market. Princeton/Newport averaged 19.5% annually from its founding in 1969 through June,

1988, vs. 9.8% for the Dow Jones Industrial Average. "He's clearly one of the most able money managers around," says one former Princeton/Newport client who is considering investing with Thorp.

It's quite an achievement that Thorp is in business at all. In the months following his partners' August, 1988, indictment, Thorp was forced to rebuild a business that relies heavily on the trust



'When half the leadership of your firm is convicted...it doesn't help any'

EDWARD O. THORP

of its clients. As the trial approached, Thorp dashed off letters to clients such as McKinsey & Co. and the Harvard University endowment fund,

asking them to stay with him. Many declined. "When half the leadership of your firm is convicted on criminal charges, it doesn't help any," says Thorp.

Enough stayed with him to put up 75% of his investment capital. The rest comes from private individuals. Thorp has cut expenses to the bone, with 19 employees vs. 80 in the old days, but the heart of his operation is not the personnel but the hardware—Digital Equipment Corp. minicomputers into which

Thorp feeds his hedging formula. The mission is basic: finding overvalued and undervalued securities through statistical analysis. Once spotted, Thorp buys the undervalued ones and shorts the overvalued ones in amounts determined by his computers. "He is the ultimate in trying to get rid of risk," says Robert D. Brehm, a senior vice-president at Northwest Quadrant Inc., a Newport Beach money management firm. Lately, Thorp has traded in Japanese stock warrants and convertible bonds.

Thorp is more at home in the ethereal realm of complex formulas than in the high-stakes world of Wall Street wheeling and dealing. A reserved man who likes to relax by searching for the asteroid Vesta with his Celestron 14 telescope, Thorp has spent most of his life thinking through mathematical and statistical problems that beat the odds. While teaching math in the early 1960s

at Massachusetts Institute of Technology, Thorp figured out techniques using computers that made him such an expert at playing blackjack that he was banned from some Las Vegas casinos. Eventually the casinos had to go to multiple decks to prevent players using the Thorp system from beating the house—a precaution the casinos dubbed "professor stoppers."

UNCANNY. Thorp came to the attention of Wall Street mavens after writing a series of books on how to beat the odds at casinos. Then, his book *Beat The Market* led to a 1969 meeting with James Sutton Regan. Within months, the two were in business, combining Thorp's formulas with Regan's Wall Street contacts. Over the years, Thorp achieved renown for determining whether options were fairly valued, which gave the firm an edge in hedging stock positions when a host of options were introduced in the 1980s. "They were way ahead of everybody else," says one money manager.

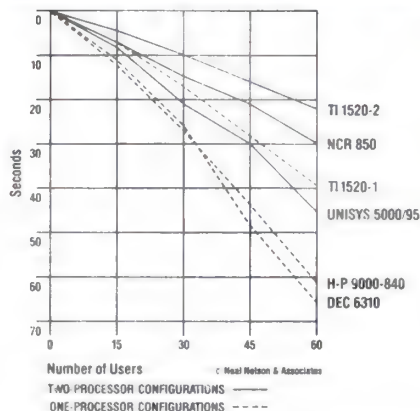
For Thorp, who earned \$4 million last year and \$8 million the year before, the mission now is to pick up the pieces. But he has a lot of competition. Today, every firm has its own computer banks. Many have "rocket scientists" who can pit their mathematic formulas and track records against Thorp. And for all the problems caused by his East Coast partners, they were adept at a host of trading strategies. Now, Thorp must prove he and his computers can make it by themselves.

By Eric Schine in Newport Beach, Calif.

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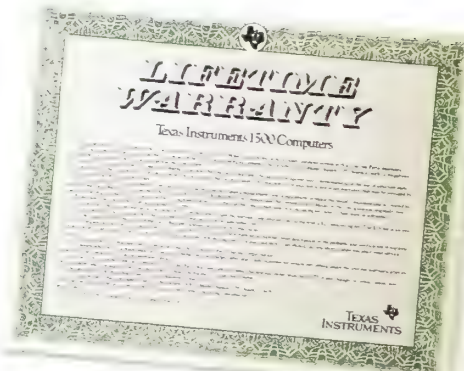
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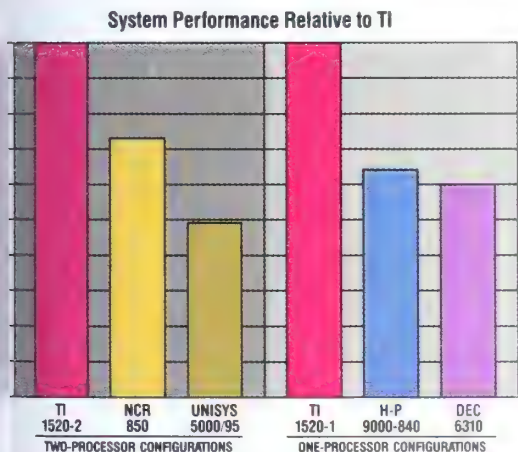
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**TEXAS
INSTRUMENTS**

SURE, STOCKS ARE FLYING— BUT 'SCORES' ARE IN ORBIT

These instruments are up 125% this year vs. the Dow's 24%

The biggest movers on the American Stock Exchange these days are neither takeover targets nor hot new issues. Instead, they are quirky securities that allow investors to benefit from the appreciation of a blue chip without ever having to buy the stock. No wonder the trafficking in these instruments, known as "Scores," has zoomed as the stock market has gathered steam this year. On some days, the 26 Scores account for 10% of the Amex trading volume.

If you think the Dow Jones industrial average, up 24% so far this year, is looking sharp, take a peek at the red-hot 26 (table). For instance, Atlantic Richfield's stock is up 28%, but the Score climbed a stunning 367%—the best Score performance this year. On average, Scores are up 125%.

ROSIER PICTURE. Scores are the bright idea of A. Joseph Debe. He reasoned that, generally, investors buy stocks either for income or for capital gains. So, why not break a share of stock into two securities, each serving one of those objectives? Debe couldn't really rip apart a company's shares, so he created Americus Trusts. Shareowners would exchange stock for units provided by Americus. Investors could then rip the unit in two parts: the "Prime" pays a dividend and returns a modest amount of capital appreciation. The Score promises only capital gains. The payoff would come when the units expired, usually in five years. Scores are similar to call options, which give owners the right to buy a stock at a certain price expiring at a set date. The big difference: Scores last for several years, while options last a matter of months.

Here's how the units work. When Philip Morris Cos. units were created in

1987, the stock was at \$85. So Americus cut the deal this way: Prime holders would get all the dividends plus no more than \$110 a share when the trust expires in 1992. A Score holder gets anything above \$110. If the stock were no higher



INVESTORS SCORE BIG WITH SCORES

Company	Stock		Score	
	Recent price	% change 1989	Recent price	% change 1989
AMERICAN EXPRESS	37½	41	6¾	108
AMERICAN HOME PRODUCTS	99½	20	23¾	116
AT&T	40¾	40	15¼	149
AMOCO	47½	27	11¾	147
ATLANTIC RICHFIELD	103½	28	15¾	367
BRISTOL-MYERS	47¼	4	16½	40
CHEVRON	55¾	22	6½	129
COCA-COLA	67½	51	21½	244
DOW CHEMICAL	97½	11	23½	71
DU PONT	119¼	35	28¾	207
EASTMAN KODAK	49	9	17	172
EXXON	44¾	2	30	0
FORD MOTOR	50¼	-1	18¼	-14
GENERAL ELECTRIC	58½	31	18½	155
GENERAL MOTORS	44¾	7	11¾	47
GTE	59¾	34	18½	132
HEWLETT-PACKARD	57	7	9½	43
IBM	118¾	-3	13¾	41
JOHNSON & JOHNSON	52	22	24	146
MERCK	74½	29	66¾	120
MOBIL	52¾	15	8½	106
PHILIP MORRIS	159¾	57	78½	267
PROCTER & GAMBLE	117½	35	32¾	191
SEARS	46½	14	6¾	59
UNION PACIFIC	78¼	22	16¾	107
XEROX	67½	16	9	100

DATA: BRIDGE INFORMATION SYSTEMS, INC.

at expiration than its current price of \$160, the Score holder would get \$50. But because the market thinks PM stock will be much higher by 1992, the Score now trades at 78½. Indeed, if PM stock doubled, to \$320, each Score would be

cashed out at \$210 (\$320 minus \$110).

Although the picture for Scores is great now, it hasn't always been. Since these instruments are like options, their price behavior exaggerates the movement of the stocks. In October 1987, some Scores fell as much as 50%. Even in 1988, when the market rose, Scores were, on average, down 19%.

But investors are scoring big on Scores this year. Harold Goldberg, a Manhattan physician, loaded up on Scores in AT&T, GTE, Bristol-Myers, Motor, and Sears after the crash. "I bought it as a chance to get even," he says.

Goldberg says he's on target. He bought 6,000 AT&T Scores at 8. The price almost doubled. His 6,000 GTE Scores purchased at 9, now command nearly \$100 each. Ford is a laggard, but, says, "there's more appreciation in the Score than in the stock if Ford takes off."

Coleman F. Clougherty, a New Jersey-based financial planner, has also been buying Scores. "The leverage is big," he says. In some cases, one Score can deliver more than one underlying share. Just this year Amoco, General Motors, and Johnson & Johnson have split two for one, so their Scores have claims to two shares of stock.

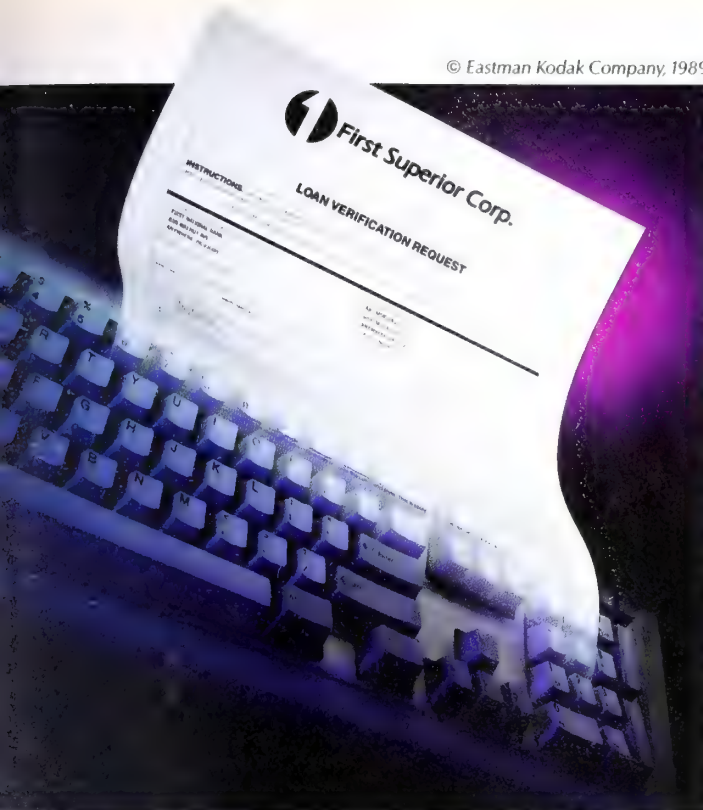
DYING BREED. Lower prices for Scores offer the most attraction for the buck. It costs nearly \$6,800 for 100 shares of Xerox Corp. stock. The same money placed in Xerox Scores gives the investor a payoff of 750 shares of Xerox. What's even more leverage? Scores can be bought on 50% margin.

Even though Scores are popular now, their days are numbered. Debe hoped to create Americus Trusts for hundreds of blue chips but got just one under way before the Internal Revenue Service ruled that the exchanges of shares needed to create the trusts would be taxable to stockholders. That removed the incentive to swap and stopped the program cold.

As the units expire over the next three years, they will be replaced. And because their float is thin compared with that of the underlying stocks, institutional investors don't trade them. So for a few more years, there's a game small investors can play that big boys can't.

By Laura Jereski in Boston

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BY GENE G. MARCIAL

BIG MONEY MANAGER ON CAMPUS

George Keane is a star at such institutions as George Washington University, the University of Denver, and Bentley College in Waltham, Mass. No, he isn't a winning football coach. Keane is the money manager who has enabled the investment portfolios of these schools to outscore the biggies—Harvard, Yale, and Princeton.

In its most recent annual survey of college endowment investment performance, the National Association of College & University Business Officers says that the top 10 performers have one thing in common: Their securities investments are all managed, at least in part, by Keane, president of Common Fund, in Fairfield, Conn.

Common Fund has shown an 18.3% annual rate of return over the past 10 years, compared with 16.9% for the Standard & Poor's 500-stock index. In 1988, it outperformed the market with a return of 23.8%, vs. the S&P's 16.6%. So far this year, Common Fund is keeping up with the market's robust gains. Keane attributes the consistently superior performance to the group of money managers he has hired to help him manage the \$8.5 billion in endowment money of 587 schools. These savvy pros include Coniston Partners, Fidelity Group, Nicolas Co., and Ariel Capital Management.

Ariel Capital and Nicolas invest mainly in smaller companies operating in thriving niche markets. Ariel President John Rogers is betting heavily on two stocks: Topps, known for its Bazooka Bubble Gum and baseball cards, and Johnson Worldwide Associates, which makes Johnson fishing gear and Eureka camping tents.

BATMAN ITEMS. Although Topps has already jumped sharply in the past year, Rogers still believes the stock, now at 24, will double in the next 12 months. Rogers says that with demand strong for the company's products, including Nintendo cards and Batman-related items, earnings should leap from 89¢ a share last year to \$1.48 this year and to \$1.78 in 1990. Johnson Worldwide, a leader in outdoor recreational products, posted lower earnings in the fiscal third quarter. But Rogers is undaunted: "It's still a good way to play the



KEANE MANAGES THE ENDOWMENTS OF 587 SCHOOLS—AND RACKS UP TIDY RETURNS

current craze for outdoor activities." He sees earnings next year rising to \$2.10 from an estimated \$1.80 this year. Once investors sense that profits are firming, he says, the stock, now at 25, will start climbing to the mid-30s.

At Nicolas, the top stock pick is International Dairy Queen, which services through franchise agreements more than 5,100 fast-food and ice cream stores in the U.S. and overseas. The company has shown solid growth over the years, notes Tom Saeger, senior vice-president at Nicolas. He says earnings of \$2.09 a share in 1980 should rise to \$2.40 this year. Dairy Queen's future growth will come from its expansion in the smaller cities, says Saeger. The company's class A shares have been on the rise since April, from 32 to 44. Dairy Queen's recent efforts to streamline operations, he says, will keep the stock going.

WHY AIRBORNE MAY REALLY DELIVER

The hottest stocks around are the airlines, but if you believe that they are being overplayed, take a gander at airfreight companies. One such operation that some takeover investors see as buyout bait is Airborne Freight, a leader in the domestic express shipment business. It specializes in door-to-door next-day delivery of documents and small packages.

Whispers are that Airborne may

soon sign a marketing agreement with a European company, which would involve the purchase of a 15% stake. Airborne. TNT Ltd. of Australia already has a 15% stake. A Japanese company and a domestic airline are also rumored to be interested in acquiring or buying into Airborne. Its stock, trading at 33 in May, has risen to 33.

Based on deals involving other air freight companies, such as Federal Express' takeover of Tiger International, some pros say Airborne is worth \$55 a share. Airborne declined comment.

Even without a takeover, Airborne "is very attractive on earnings potential alone," says Graham Tanaka, president of Tanaka Capital Management. An earnings "explosion," he says, will come from the reduced costs per shipment due to improved productivity. Airborne will surprise the Street with healthy profits of \$2.20 a share this year and \$3 to \$4 in 1990, he maintains.

HAS RORER FOUND A FRIEND?

When Rorer Group Chairman Robert Cawthorn told an investment conference in early May that he was willing to merge with a pharmaceutical company with the "right partner," he practically put the company on the block. The stock jumped four points, to 41. But the right partner apparently didn't come around. The long-rumored takeover stock shot to 37 a few weeks later.

But now, several big investors are back in the stock, which has run up to 44. The reason: A partner is in sight. Some takeover pros. Two major U.S. pharmaceutical companies and a European conglomerate are whispering to have informally talked with Rorer about a possible merger or outright takeover. One would-be partner is said to be Upjohn. Rorer's appeal to Upjohn, claims a big investor, is Rorer's huge commitment to research and development. He notes that 12% of Rorer's revenues go to R&D, which has yielded some very good products. Upjohn and Rorer declined comment.

"Rorer is focusing on ethical drug development more than ever and will be introducing new cardiovascular products over the next few years," says Stuart Weisbrod, analyst at Prudential-Bache Securities. Based on the quality of earnings and its growth potential, Rorer is undervalued, he adds. A New York money manager puts the takeover value of Rorer at \$65 a share.



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MILLION-DOLLAR PROFESSORS: SHOULD THE IVORY TOWER BE A GOLD MINE?

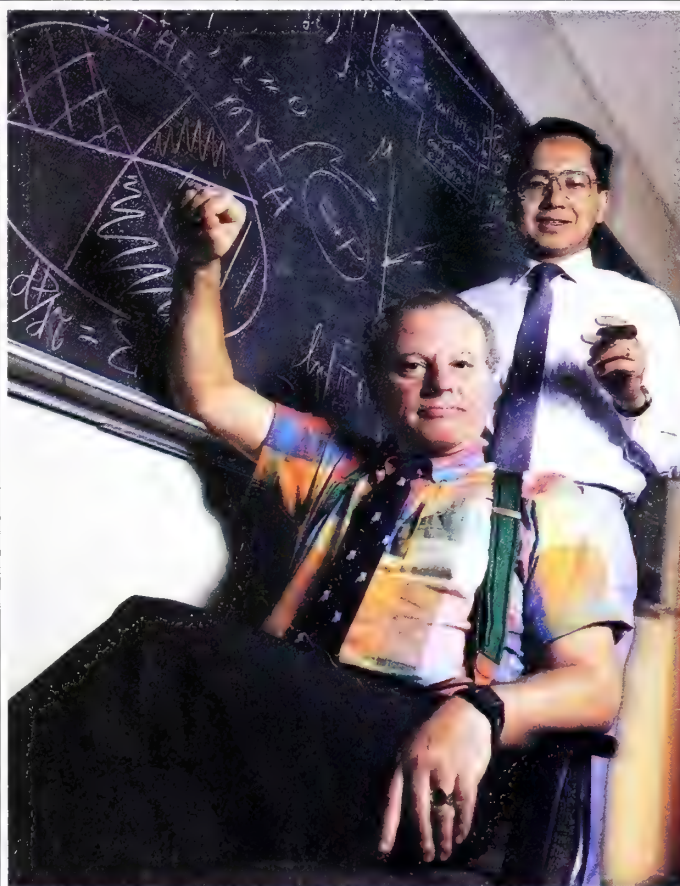
Pressure is mounting for universities to clamp down on academic entrepreneurs

Three years ago, Donald L. Bitzer helped start University Communications Inc. to develop a computer network that would deliver kindergarten through college courses. The University of Illinois professor of computer and electrical engineering agreed to hand over 3% of his company's gross revenues to the university, which had funded his research. The school, in turn, let Bitzer continue to run its Computer-Based Educational Research Laboratory.

Now, Bitzer and top university administrators are embroiled in lawsuits brought by two of Bitzer's colleagues. The suits contend that Bitzer used public funds to visit potential investors, required university employees to do clerical work for his company, and negotiated rates to use university computers at a fraction of what other customers—including the state of Illinois—pay.

Bitzer labels the allegations "completely without merit" but has stepped down as head of the company. In August, he announced plans to join the faculty of North Carolina State University. Says one administrator familiar with Illinois' own investigation into the matter: "There is absolutely no question that there were irregularities."

DISCLOSURE TIME. Whatever the outcome of the lawsuits, Illinois now plans to keep closer tabs on its campus entrepreneurs. This fall, for the first time, the university will require faculty members to disclose whether they have a financial interest exceeding 7.5% in, do consulting for, or hold a management post in companies that do business with the university, are involved in their fields, or sponsor their research. "We felt it was possible that the few cases of conflict of interest we have seen were the tip of the iceberg," says Judith S. Liebman,



**FLOYD GOULD AND CRISOSTOMO GARCIA: THE UNIVERSITY OF CHICAGO
PROFS ARE ALSO PENSION-FUND MANAGERS FOR BLUE-CHIP COMPANIES**

Illinois' vice-chancellor for research.

Illinois is not the only school sounding the alarm. Physicists, biologists, chemists, even political scientists and professors of law and business are now earning many times their academic salaries from business activities—everything from doing corporate research to running their own companies. The new wave of million-dollar professors is stirring broad concerns about potential conflicts of interest.

The irony is that the universities themselves have been instrumental in pushing their faculties into the marketplace. Faced with dwindling federal funds and pressure to contribute to U.S. industrial competitiveness, they turned to industry for research funds and set

up incubator parks to nurture university-spawned companies. They also created venture funds to finance faculty inventions, and they negotiated deals whereby individual faculty members could spend less time on campus.

Now, however, so many university professors have transformed the ivory tower into a gold mine that some critics think it's time to propose stricter rules on entrepreneurial profs. "We need to strengthen oversight of entrepreneurial activities and ask hard questions about how many professors are engaged in outside activities," says Ernest L. Boyer, president of the Carnegie Foundation for the Advancement of Teaching.

MORE GUIDELINES. Legislators on Capitol Hill are asking tough questions. Prompted by complaints about faculty members using public funds for private gain, Representative Ted Weiss (D-N.Y.) is holding hearings this spring on the conflict of interest before a subcommittee on government relations. Now, the congress-

man is considering introducing legislation that would require scientists doing research with federal funds to sign a statement saying they don't have a financial interest in the outcome of the research. "The threat of legislative intervention is probably greater now than ever has been," says Robert Kreiser, official of the American Association of University Professors, which represents nearly 42,000 academics.

University administrators and federal agencies that sponsor research alike are trying to head off Congress by taking steps of their own. The Association of American Universities, which concedes that there is a potential problem, is instituting reviews of conflict policies at member schools. In late June, the fa-

Institutes of Health, the nation's
st backer of biomedical research,
uded that more explicit guidelines
rning conflict of interest were need-
r institutions receiving NIH grants.
rn, the National Science Founda-
which funds mostly basic research,
sidering whether to impose stricter
on its grantees.

offit-minded professors, of course,
othing new. Most schools have long
ed faculty members to consult one
week. Nor are companies spun off
professors a recent phenomenon.
achusetts' Route 128 and Califor-
Silicon Valley are testimony to
The rare academic who scored big
a hero. One was the University of
ornia at San Francisco's Herbert W.
r, a founder of Genentech Inc., who
stock worth \$80 million when the
any went public.

WING NUMBER. So why the alarm
Because the profit motive has
t the campus far more than anyone
ned it would just a few years ago.
75, the Carnegie Foundation for the
ncement of Teaching found that
of the faculty members it sur-
had engaged in paid consulting
ndustry or private business over the
two years. By 1984, that number
jumped to 24.5%. An unreleased
conducted this year will show that
figure is now approaching 30%.

some schools, the numbers are
igher. Last October, Harvard Uni-
y student Robert Weissman pub-
l a report indicating that 110 of the
ard business school's 180 profes-
maintain a total of 500 corporate
ctions and that some professors
pulling in as much as \$10,000 a day
onsulting fees. The university will

DIFFICULT TO TEACH FINANCE ISS YOU DO SOME FINANCE'

1985, Yale University Professor
even A. Ross teamed up with Rich-
Roll from the University of Califor-
at Los Angeles and founded Roll &
s Asset Man-
ment Corp. It
ages pension
ds based on a
del that grew
of Ross's the-
of arbitrage
ing. The firm
handles funds
t are worth
ut \$4 billion.
oss turns down
ers that come
way from Wall
et. But he occa-
ally breaks the
ersity's rule of



**ROLL AND ROSS:
TESTING
THEORIES ON THE
STREET**

SIMPLE RULES FOR A GUILT-FREE DUAL CAREER

Chemist Carl Djerassi has spent
most of his career straddling the
worlds of business and academe. Con-
flict-of-interest issues arise "from the
real naiveté of many academics who
don't realize what a swamp they might
be walking into," he says.

The 66-year-old Stanford University
professor should know. He's a noted
researcher in oral contraceptives, a for-
mer executive at Syntex Corp., and a
founder of Zoecon Corp.

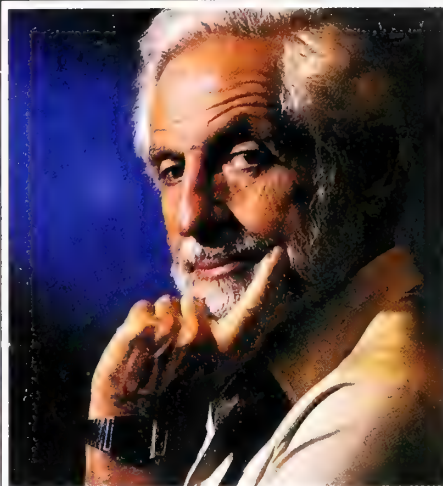
His rules for a conflict-free career
are simple: Don't have students work
on company projects, avoid university
research that would benefit your com-
pany, and never cancel classes. To
stave off problems, Djerassi advocates
full disclosure of outside activities. "If
someone wants to cheat, they are go-

not comment on the study, but the B-
school faculty agreed to new guidelines
discouraging them from holding signifi-
cant management posts in companies.

Data such as that have critics worried
that campus capitalism may skew the
research and educational mission of the
universities. "Twenty years ago, finan-
cial questions didn't come up. Now, ev-
eryone has a story to tell," says a staff
member of Representative John D. Din-
gell's (D-Mich.) subcommittee on over-
sight and investigations.

One such story is the case of Dr.
Scheffer C. G. Tseng, a former research
fellow at the Harvard-affiliated Massa-
chusetts Eye & Ear Infirmary who is
now being investigated by Massachu-
setts' Secretary of State and the Securi-
ties & Exchange Commission. Tseng is

only one day a week for outside activi-
ties. He says his teaching doesn't suf-
fer—it even profits. "It's kind of diffi-
cult to teach finance unless you do
some finance," he says. So his B-school
students learn from a theoretician who
has tested his ideas on the Street.



DJERASSI: CONFLICTS STEM FROM "NAIVETE"

ing to cheat," he says. "But outright
fraud is rare. Most researchers are ba-
sically honest."

alleged to have misused federal research
funds by treating far more patients with
an experimental eye ointment than were
approved for the Food & Drug Adminis-
tration's clinical tests. Also under inves-
tigation are charges that Tseng failed to
publish the results of tests on those pa-
tients showing that the eye ointment did
not work.

A subsequent lawsuit filed by share-
holders of Spectra Pharmaceutical Ser-
vices Inc., the company that produced
Tseng's ointment, alleges that the doctor
made a hefty profit by using his knowl-
edge of the negative results of the re-
search to trade in the stock before the
results were announced. Tseng, who is
now at the University of Miami School
of Medicine, denies the charges.

Another problem is the impact on stu-
dents. Privately, professors and gradu-
ate students complain that academic en-
trepreneurs spend less time on class
preparation and in office hours. "Some
of my colleagues who have developed
full-scale management enterprises have
become very sparing of the time they
give to the classroom," says Lawrence
G. Lavengood, a professor of business
history at Northwestern University.

Critics also contend that professors
sometimes use students to work on com-
pany research contracts, then appropri-
ate their ideas for the business, deny
them academic credit, or refuse to let
them write up the work because it's pro-
prietary. "We hear stories all the time,"
says Dingell's staff member. "But so
far, no students have agreed to go pub-
lic. It would destroy a student's career."

CLASH OF CULTURES? A good many pro-
fessors question whether the boardroom
and the lecture hall can mix. H. Kent
Bowen, Ford professor of engineering at
MIT, is a founder, board member, and
consultant at Ceramic Process Systems

Science & Technology

Inc., a materials-processing company started by former students, but he doesn't own a share of stock or play an operating role, so he can keep his credibility and independence in research and dealings with other companies. "Academics need to decide whether they are professors or entrepreneurs," he says.

Some do find the lure of the marketplace irresistible. "Is money a motive? Of course it is," declares Floyd Jerome Gould. The 20-year University of Chicago business school veteran and his partner, UC Professor Crisostomo B. Garcia, manage \$500 million in pension funds for such clients as GE, Lockheed, and Chrysler from an office in Chicago's South Loop. It was the mathematicians' UC con-

you are really committed," he says.

But the risk of losing key faculty is one that many schools are willing to take. And universities continue to aggressively push incentives for technology transfer. "There is a growing awareness that the research university is a potential source of new technology that can be used to create new businesses," says Edward L. MacCordy, associate vice-chancellor for research at Washington University, one of a handful of schools that has a venture-capital fund.

There is evidence that this mission is paying off. On June 26, Massachusetts Institute of Technology released a study by the Bank of Boston of 636 Massachusetts businesses founded by MIT alumni

lowing top professors to be involved outside businesses can be an effective way to keep them without boosting salaries. Boasts Donald P. Jacobs, dean of Northwestern's J. L. Kellogg Graduate School of Management, referring to several faculty members who run businesses on the side: "I'm not paying them anywhere near their worth."

PROFIT CENTERS. Entrepreneurial professors also help schools raise research funds, attract top-flight talent, or run profitable executive-education programs. Alfred Rappaport, a professor at Kellogg and founder and chairman of AR Group Inc., a consulting firm, packs executives in at \$3,200 a head for a week-long educational program on merger and-acquisition strategy. Rappaport negotiated a part-time schedule and salary in exchange for running the program and his company. "There was an implicit understanding that what I was doing would bring greater reputation and substantial revenues to the school," he says.

The new breed of academic entrepreneur wouldn't have it any other way. "Top academics are going to become more like independent contractors," predicts University of Illinois physicist Stephen Wolfram. He says he "went around and got bids" from half a dozen schools, including Harvard, before signing on at Illinois.

Wolfram settled there because the school waived rights to his work and let him run his company, Wolfram Research Inc.—and nailed it down in a contract that runs to 50 pages. Last year, the 31-year-old entrepreneur signed a deal with Next Inc. to bundle his Mathematica calculus program, which could enjoy a \$40-million market, into its computer.

Many university administrators believe the potential conflict problems can be solved simply by requiring fuller disclosure. Stanford University, for instance, asks professors to reveal their outside business activities but doesn't require that they list stock holdings. "The problems are more of perception than reality," contends Katherine Ku, associate director of Stanford's Office of Technology Licensing.

Such moves, however, won't satisfy critics. "Universities and faculties are capable of policing themselves," declares Robert H. Linnell, professor emeritus at the University of Southern California. As long as the nation wants quick technology transfer and job creation, academic capitalism is here to stay. But if universities don't manage the potential for conflict more deftly, someone may do it for them.

By Julia Flynn Siler in Chicago, John Carey in Washington and Richard Brandt in San Francisco



BOOTHROYD AND DEWHURST: CLEANING UP FROM SIMPLIFYING PRODUCT DESIGN

HE TEACHES. HE DESIGNS. NO PROBLEM

What we're doing is translating university research into something useful for the real business world," says Geoffrey Boothroyd, a professor of industrial engineering at the University of Rhode Island.

During the 1970s, the Englishman decided that companies would be more productive if their products were de-

signed to be easy to build. British industry turned a deaf ear, but in the U.S., both industry and the National Science Foundation have funded the development of his "design for assembly" method. He incorporated in 1984, with colleague Peter Dewhurst, as Boothroyd Dewhurst Inc., and since then customers have been snapping up the Wakefield (R.I.) company's design software. This year, revenues may top \$1.5 million.

nection and research in nonlinear programming that gave them credibility with clients when they started Investment Research Co. in 1984. Now, "we both are interested in easing out of the university," says Gould. "The intellectual challenges of being in this business are at least equal to teaching MBAs."

LIABILITY. Indeed, as Investment Research approaches its first profitable year, Gould says that his academic connection may be more of a liability than an asset. "As long as you continue to be a professor, business people are not sure

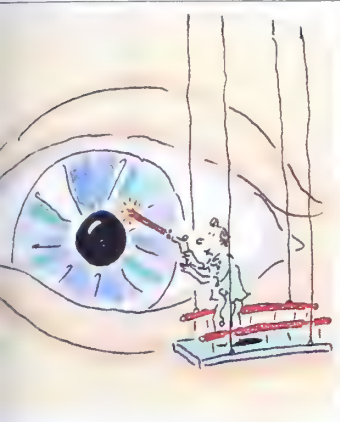
and faculty. The companies' 1988 worldwide sales totaled \$39.7 billion, and employment amounted to 192,774 people.

Universities encourage business-minded profs for economic reasons as well. The ability to gain financially from research is a "recruitment inducement," admits James J. Brophy, vice-president for research at the University of Utah in Salt Lake City. Even though a few well-known business professors pull down salaries of \$250,000 and over, most faculty salaries have lagged behind inflation and comparable professional pay. So al-

Developments to Watch

BY NAOMI FREUNDLICH

LASERS TURN GLASSES INTO ARTIFACTS?



For many people longing to be free of glasses or contact lenses, hope may be in sight. In late July, Summit Technology Inc., a small medical-device company, began testing a special laser scalpel on a small group of partially blind patients. The device, which uses a so-called excimer laser, enables an eye surgeon to reshape

the eye's cornea. By removing a superthin layer from the surface of the cornea, a surgeon can sculpt the eye's lens—thereby correct many vision defects.

Though the first U.S. tests are being conducted on people whose corneas are scarred, European test results indicate that the laser can restore sharp vision to those with more common problems, such as nearsightedness. Summit plans to begin tests with the nearsighted later this year, but the Waterbury (Mass.) company doesn't expect general approval from the Food & Drug Administration before the end of 1991.

IT MIGHT PUT AN END TO THE GREAT SALMONELLA SCARE

Worries about getting food poisoning from salmonella-tainted chickens have escalated following reports from the Agriculture Dept. that 37% of all chickens are contaminated. But researchers at the Agricultural Research Service say there may be a simple—and inexpensive—way that farmers can reduce the bacteria in broiler chickens before they leave the coop.

Dr. De Loach, research leader at ARS's Veterinary Toxicology research lab in College Station, Tex., noticed that milk products interfere with the growth of salmonella in chickens. To test that hypothesis, he added 2.5% lactose, or sugar, to the drinking water of just-hatched chicks for 10 days. Then, De Loach gave groups of both lactose-fed and nonlactose-fed chicks an oral dose of salmonella bacteria. After 10 days, only 53% of the chicks given lactose were still infected with salmonella, and those had 99.9% fewer of the bacteria in their bodies than the broilers that didn't receive lactose. All of the nonlactose group were still infected. The next step, De Loach says, is to test the treatment under commercial poultry-farm conditions, where the addition of lactose to drinking water costs as little as 2¢ per bird.

ENDING THE TRIBULATIONS OF PROJECTION TV

Projection TV sets have never been a big hit. Partly because you must frequently fiddle with the "convergence" controls—aligning three cathode-ray tubes (CRTs) so that the red, green, and blue portions of the picture are precisely superimposed. Otherwise, the image becomes fuzzy or marred

by visible lines. But getting it just right takes more skill and patience than most people care to muster.

Such tribulations are a relic of the past, asserts Sharp Corp., which will shortly unveil a projection TV that doesn't use CRTs. Instead, it has three liquid-crystal display (LCD) "shutters." Once these are aligned at the factory, no further adjustments should ever be needed.

The new system fashions a TV picture by filtering out the red, green, and blue wavelengths in the bright-white light from a metal-halide lamp. Each primary color is diverted to a separate 3-inch LCD panel. There, 89,500 pixels, or tiny dots, are individually switched on or off, blocking the light in places and letting it through in others. Combining the images from the trio of shutters produces a 268,500-pixel picture that remains sharp even when projected on a room-filling, 100-inch flat screen. The blinds still must be pulled for daytime viewing, though, and prices—starting around \$5,000 at discount stores—will block many a would-be buyer.

A PREGNANCY WONDER DRUG MAY BE IN YOUR MEDICINE CABINET

Doctors have long been puzzled by a form of high blood pressure that affects 5% to 7% of pregnant women. The condition, called preeclampsia, can cause death of the fetus. The cause of the condition is still unknown, but in independent studies, two teams of researchers have reported that taking low doses of aspirin in the third trimester can reduce its incidence without increasing fetal bleeding.

In one study, a team at the Sackler School of Medicine in Tel Aviv found that in women at risk for pregnancy-induced hypertension, only 12% developed the condition when treated with 100 milligrams of aspirin a day. Concurrently, several researchers in Italy found that long-term daily doses of 60 milligrams of aspirin were associated with a longer pregnancy and higher birthweight. The Italian study concludes that aspirin may also reduce the formation of a substance that causes platelet production in the mother's blood. Since excess platelet production is associated with preeclampsia, the researchers are now getting clues to the mechanisms of the condition.

FORGET THE GROG—THIS BOTTLE COULD SAVE LIVES

Finding someone who's lost at sea is tricky. A disabled boat only 8 miles from a Coast Guard cutter is "over the horizon" and invisible to its radar. And radar can't spot a life raft much beyond 3 miles. Often, stranded boaters report waving to several search ships before being picked up.

For \$200, prudent boaters can buy a new gadget to help assure a speedy rescue. Radartron packs a metallized balloon, a helium-gas cartridge, and a long nylon tether into a buoyant canister about the size of a folding umbrella. Twist off the top, pull the rip cord, and the radar-reflecting balloon rises as high as 165 feet—and looks bigger than a boat on radar screens up to 23 miles away. Developed in Australia, Radartron is marketed worldwide by Aqua Buoy Corp., of Englewood, Colo. Company Chairman Joseph V. Pignatiello hopes the 12-ounce safety bottle will also prove popular among hikers and cross-country skiers.



MCI'S NEW PROBLEM: 'HOW TO SPEND ALL THIS CASH'

The No. 2 phone carrier revels in two quarters of hot growth

It has been a year most companies would die for: back-to-back record earnings in the first two quarters after a major comeback last year. MCI Communications Corp. even managed to sting archrival American Telephone & Telegraph Co. by grabbing another two points of market share in the long-distance business, a gain of 20%. Now, the company that helped break AT&T's monopoly is concentrating on perhaps the most difficult challenge of all: keeping its momentum going against increasingly stiff competition.

For the moment, MCI is riding a wave. While the overall market is growing by 10% a year, Washington-based MCI posted a 30% increase in sales last year, to \$5.14 billion, thanks mainly to increased demand from corporate customers. Morgan Stanley & Co. analyst Edward M. Greenberg expects sales to rise by 27% in 1989, to \$6.53 billion, and profits to hit \$620 million, an 86% increase.

FASTER FIBER. At that rate, Chairman William G. McGowan's vow to double revenues within five years seems conservative. "We see them continuing to improve their competitive position," says Ferris & Co. analyst Eliot Benson. Wall Street apparently agrees. Since January, MCI's stock has risen 66%, to 38, a stunning recovery from 1988's low of 9%.

Still, AT&T has a commanding 68% of the \$60 billion market, compared with MCI's 12% and U.S. Sprint Communications Co.'s 8%. And AT&T is challenging MCI on the regulatory front, most recently by asking the Federal Communications Commission to investigate MCI's pricing to corporate cus-

tomers. Resurgent Sprint, promoting a high-tech edge from its fiber-optic phone network, is gunning for MCI's No. 2 slot and winning customers. Sprint bruised MCI last year, when it won 40% of a \$25 billion contract to replace the federal government's phone system. "Sprint has [a technology] advantage over MCI and is rapidly catching up to AT&T," says Jo-



McGOWAN: MCI COULD PAY ITS FIRST DIVIDEND EVER

seph Gallo, telecommunications director for Automatic Data Processing Inc.

MCI aims to prove him wrong. It will spend \$700 million this year to upgrade its transmission network with faster fiber-optic equipment and data processing gear. Already, such high-volume customers as Westinghouse Electric Corp. and Merrill Lynch & Co. have chosen MCI as their primary carrier. Northwestern Mutual Life Insurance Co., a longtime data

transmission client, now will switch its voice traffic to MCI from AT&T, thanks to "a very positive experience from service and pricing," says Hugh Hoffman, Northwestern's systems coordinator.

MCI also is nipping at AT&T with new products such as customized facsimile transmission and

a dial-900 service that, among things, lets home shoppers order merchandise via push-button phone. Such offerings, says McGowan, "are typically more profitable than plain-vanilla service," since they are provided simply by developing new software and plugging it into MCI's existing network of data switching systems.

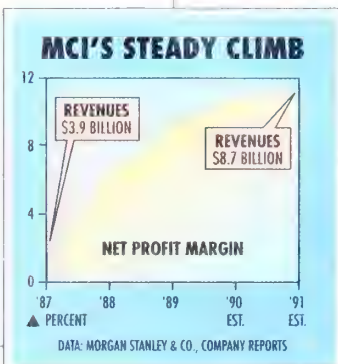
Indeed, the \$6 billion that MCI spent on its network earlier in the decade is paying off handsomely. In 1984, MCI spent \$1,000 per new mile of circuitry. That by simply turning on unused switching capacity, it spends just \$1—and the rate is falling. "We used to spend a dollar to get back a dollar in revenue," says Chief Financial Officer Daniel F. Ake. "Now, it costs us about 40¢." In spite of that, although MCI's rates have fallen more than 40% since 1984, its costs have dropped faster, thanks to automation. Operating margins have climbed to 15.9% from 9.8% a year ago. And Ake says they'll hit 18% by 1991. Cash flow, negative as recently as 1987, should exceed \$1 billion a year by 1991.

Now, "figuring out how to spend this cash is one of our biggest concerns," says McGowan, who recovered from a heart transplant two years ago and is concentrating on policy and strategy. He muses that MCI could pay a dividend—its first ever—or buy back stock to boost share earnings and its stock price. The company may also enter new lines of business with acquisitions, though these "would have to be things we know how to do," McGowan says. "We know how to buy technology, install it, manage it, and provide services." MCI has a foothold in 52 countries, thanks to acquisitions of RCA Communications Inc. and Western Union International.

'GROWTH MACHINE.' The goal is to build economies of scale by keeping the pipeline filled, a job MCI has done well so far. As phone rates have fallen, usage of the network has grown by about 40% each of the past two years. "It's a growth machine," says Richard T. Haber, executive vice-president in charge of MCI's network.

Long range, "there is no structural reason that MCI cannot become bigger than AT&T," asserts Kevin W. Sharkey, MCI's senior vice-president of sales and marketing. "I'm not saying it's going to happen. But there's no proprietary technology [in long distance], and we have access to capital and a good customer base." Of course, both AT&T and Sprint enjoy these same benefits, so MCI must have to step lively.

By Tim Smart in Washington, with J. J. Keller in New York and bureau rep





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DRIVING A COMPANY FROM THE BACK SEAT

Software Publishing's CEO reorganizes after two hard years

Nobody can accuse Fred M. Gibbons of being unenthusiastic. Give the chief executive of Software Publishing Corp. a plan he really likes, and he'll throw back his head and howl—a habit that inspired one executive to buy him the wooden coyote that guards his office door. "Success starts with a will to win," says Gibbons. "I'm going to drive as hard as I know how."

These days, though, Gibbons is driving a little slower. After two years of turnover at the top, the No. 8 producer of PC software is reorganizing, and Gibbons, 39, says he's stepping back from the day-to-day running of the company that he co-founded in 1980. At his board's urging, Gibbons is hiring a team of seasoned computer executives and giving them the power to manage.

LOST LEAD. The idea is to help Software Publishing achieve bigger things. Sales of its graphics software and its Professional and PFS series of word processing, accounting, information management, and desktop publishing packages are mostly strong. For the year ending on Sept. 30, analysts expect the company to earn \$17 million, up 26%, on a 38% increase in revenues, to about \$101 million. Its balance sheet lists \$46 million in working capital—and no debt.

Still, things could be better. Revenues from PFS have flattened, largely because of poor marketing. The company has lost its lead in file-management programs—software that helps organize information—to Symantec Corp. It has made little progress in building overseas sales: About 18% of its revenues are international, compared with 40% or more for

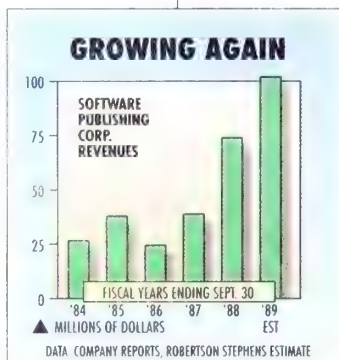
many competitors. And it has ignored the lucrative Macintosh market. Only the performance of the company's \$495 Harvard Graphics package for making charts and graphs has masked these problems. Sales of this popular program largely accounted for Software Publishing's 89% increase in 1988 revenues.

Gibbons himself says that he is a better strategist than a manager. Until six months ago, Software Publishing wasn't



even organized into formal divisions. Gibbons alone was making many critical decisions—and some were getting made late. The company didn't complete its 1989 budget, due last October, until February. "Something was seriously wrong," says Gibbons. "We were starting to fly without a map."

Since then, the CEO has set up two product divisions, one each for upgrading and marketing high-end and low-end products, an international group, and an Advanced Technology Group, which oversees new products. These units are led by three newly hired vice-presidents and a handful of experienced managers from Unisys, Ashton-Tate, Lotus, and



Hewlett-Packard, who have far more aptitude to make decisions than their predecessors did. Down the road, the company hopes to name a general manager. Gibbons can focus just on strategy, says Chairman Jack L. Melchor.

'BEST-SELLER.' The first big test for the new management team is completing a program that will make it easier to work on networks of powerful PCs, to enter, retrieve, and organize information stored on big computers. As links between PCs, mainframes, and minicomputers become more common, that capability is expected to be much in demand. "There's no reason Software Publishing shouldn't create the next best-seller," says Peter Rogers, an analyst with Robertson, Stephens & Co.

Gibbons stepped back once before, after a 1986 financial hiccup caused largely by the company's failure to keep its products updated. He became chairman

and made co-founder Janelle Bedke president and CEO. But months later, Bedke quit, and Gibbons was again running day-to-day operations.

Still a director, Bedke denies rumors of a power struggle. But Melchor, a venture capitalist who became chairman after Bedke stepped down, says there was confusion over who was in charge. The board backed Gibbons. "I felt Fred was a better strategic thinker, although he's not nearly as good a nuts-and-bolts manager as Janelle," says Melchor. Bedke was followed out the door by at least three other top executives, including Wesley D. Richards, the sales and marketing vice-president who built the company's direct sales force. Gibbons says Richards' management style clashed with his own.

There's no guarantee, of course, that Gibbons will relinquish control for long this time. He owns only 6% of the stock, but his influence is such that "it's his company," says Norm DeWitt, who left as head of customer support after his operations were split up this year. "I wouldn't like a decision, he'll change." On the other hand, as the software industry gets more competitive, the penalties for management errors are becoming harsher. So this time, Fred Gibbons may settle for being a back-seat driver.

By Richard Brandt in Mountain View, Calif.

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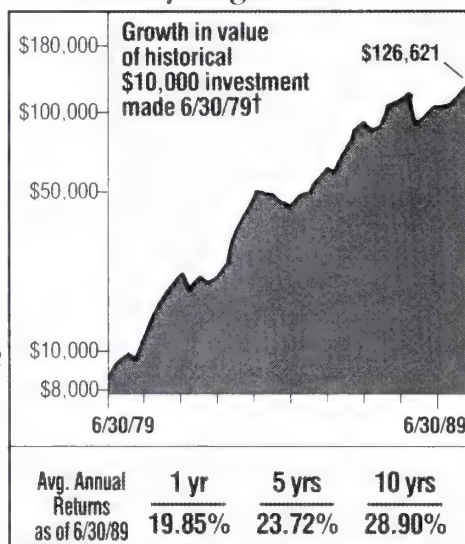
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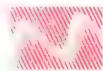
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D BY ANDREA ROTHMAN

LIAM BRANDT: PUTTING SMALL BUSINESSES BACK IN THE BLACK



Running a mushroom farm isn't normally considered preparation for running a radio station. And managing a radio station isn't usually thought to be similar to directing a wholesale meat business. But to William Brandt, who has done all three, they're pretty much the same—if they're in trouble.

President and founder of Chicago-based Development Specialists Inc.,

it has spent the past 16 years nursing troubled small businesses back to health. They include a chain of nightclubs, Andy's franchise, and a plastics firm. He believes most businesses can be traced to one of two errors: overeager expansion or a lack of fundamentals, such as controls for collecting receivables. A DSI team of up to seven consultants runs the ailing businesses for an average of six months before returning them to their managers. Brandt and his staff of 19 can work with up to 30 companies at a time.

Brandt, 39, fell into the business while working on a doctor-sociology. A friend asked for help at an ailing coal mine, and the owners wound up selling, and Brandt was hooked. He has some firms that take an equity stake in turnaround situations, and Brandt charges a fee calibrated to the difficulty of the case. Revenues in 1988 were \$3.4 million, and Brandt expects to bring in \$4 million this year. Half his business comes from bankrupt companies' creditors and half from companies seeking to avoid bankruptcy. About 20% of the time, he opts to liquidate, which often riles clients. But, he says, "we don't depend on repeat business."

By Lois Therrien in Chicago

JAMES BERRIEN: SAILING ALONG A SEA OF CHALLENGERS

After American Express Co. hired him in 1985 to revive its moribund *Food & Wine* magazine, James S. Berrien brought to warm the magazine with the ading community offering some gourmet cook-lessons. But



he warmed up faster than expected when the food began to sizzle. In seconds, the fire-extinguishing system went off, covering the food with white powder and drawing a troop of firefighters. "It was a disaster," Berrien says, but he jokes that at least he made a name for himself.

These days, Berrien, 37, is feeling a different sort of heat.

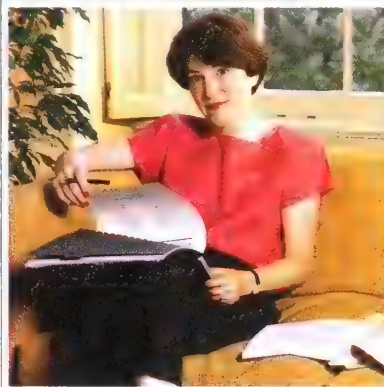
He's now publisher of AmEx's 18-year-old *Travel & Leisure*, which is under competitive pressure as never before. Condé Nast's *Traveler* has been the most aggressive challenger, but a sharpened national appetite for travel has drawn a host of other magazines to the category—all trying to chip away at *T&L*'s industry-leading circulation of 1.1 million and annual revenues of \$44.7 million.

Defending a leadership position is a high-pressure job, but that's why AmEx put him there. He had already doubled revenues at *Food & Wine* when Condé Nast launched its glossy *Traveler* in September, 1987. Perceiving a threat to its flagship, American Express Publishing installed Berrien at *T&L* the following month. Since then, he's enlivened the magazine's look and expanded its six regional editions. To entice advertisers, he offers embellishments such as setting aside \$400 from each page of ad revenue to stage parties for valuable customers. And he's helping advertisers target preferred customers through AmEx' vast data base.

Despite the competition, *T&L*'s ad revenues in the first half of this year are 17.9% ahead of year-ago levels. All the while, Berrien professes not to worry about his rivals. "If other people want to be in this marketplace," he says, "the more the merrier." Provided he's on top, of course.

CAROL EINIGER: ONE-OF-A-KIND AT WASSERELLA

Carol B. Einiger isn't one to brag, but the poster propped behind her desk attests in big blue letters to her weighty reputation as an investment banker. It reads: "Goldman Sachs, A. G. Becker, Merrill Lynch, Lehman Brothers versus Carol Einiger." It was designed as ad copy for her employer, First Boston Corp.



The ad never ran—and it never will. Last June, Einiger, 39, joined rival Wasserstein, Perella & Co., the high-powered firm launched when hotshots Bruce Wasserstein and Joseph R. Perella defected from First Boston in 1988. The company's only female managing director, Einiger helps companies with restructurings, mergers and acquisitions, divestments, and takeover defenses.

Einiger downplays her role as a pioneer, although she was the first female managing director at First Boston, too. "I didn't think a lot about being the first woman," she says. After graduating from the University of Pennsylvania, "there seemed to be very few opportunities that weren't secretarial, and I didn't have those skills," she quips. She went on to Columbia University business school, joining First Boston in 1973. Her clients included J. C. Penney, Du Pont, and Chrysler, among others. She won renown for leading First Boston's charge in the zero-coupon corporate bond business.

Between First Boston and Wasserella, Einiger taught ethics at Columbia for a year. But she's happy to be back on Wall Street. As Einiger describes it, the fun of investment banking is in "working together with your client and feeling you've made a difference." If the sign behind her desk is any indication, the thrill of competition counts for something, too.

By Ruth Conniff in New York

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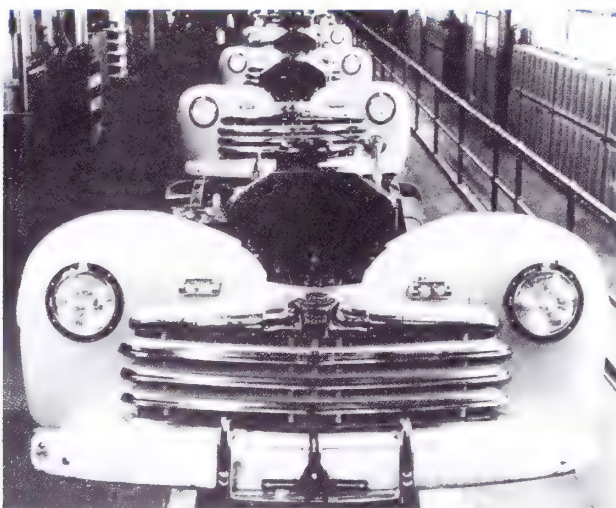
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BusinessWeek
THERE IS NO SECOND PLACE.

CLUBS WHERE YOUR DUES CAN PAY FAT DIVIDENDS



You probably wouldn't expect a group calling itself the Dollars and Dimes Investment Club to have much success in the stock market. But 30 years after nine airline mechanics started the club by pitching in \$10 a month, 20 members are sitting on a pot that has grown to more than \$500,000.

It's a success story echoed by many of the 6,962 clubs linked to the National Association of Investors Corp. (313-543-0612). NAIC, a nonprofit group for investment clubs, espouses the financial virtues of investing in stocks via dollar-cost averaging, or investing set amounts regularly whether the market is rising or falling. The portfolios that result aren't penny-ante: The

average club's portfolio is \$60,125, and in addition, members have personal portfolios averaging \$119,000 each. Typically, the clubs keep pace with the market averages.

WAITING LISTS. These groups can be a good way to test hunches or benefit from new perspectives before experimenting with your personal portfolio. But "the main benefit is that you learn a lot about nuts-and-bolts investing," says Nancy Tang, a member of a club in Portland, Ore. And while many clubs are social, that "isn't as important as hearing other people's views," says Florence Shama, who often runs ideas by her club in Columbus, Ohio, before touching her own portfolio.

Since many successful clubs tend to have limited memberships, you may not be able to join an established one. In fact, many have waiting lists, so you may want to start your own club.

If you decide to establish a club, you'll have to do some paperwork. First, you'll need to decide which form the club will take: corporation or partnership. Most become partnerships so that they'll be exempt from paying corporate taxes, although individual members must report their share of any gains, losses, dividends, or interest earned on their own returns. And before the club begins trading, it must obtain a federal tax identification number from the IRS.

Informal investing clubs may not bother adopting a name, but most NAIC groups do, creating such fan favorites as Up Your Assets and PIGS (Profitable Investing Growth Stocks) in Columbus, Ohio, Moneybags in San Francisco, and Milwaukee's in the Vest.

Getting the right blend of genders is important, according to an NAIC survey conducted in 1988. The earnings rate for all-male clubs has been 8.7% compounded annually, while all-female groups have had a total return of 9.1%. But mixed clubs have had lifetime earnings rates of 10.4%. Says LaVonne Rie in Columbus, who belongs to three clubs: "Women have more faith in holding on."

to make a quick buck." the beginning, average commissions of \$35 a transaction can eat into a capital—a group of 15 people putting in \$30 a month, would pay almost 8% of investment as the commission on a \$450 purchase. To avoid hefty commissions, NAIC has a Low Cost Investment Plan. The association enrolled in the dividend reinvestment plans of more than 50 companies, so members can buy their shares at a discount if any transaction cost. High investing in such as the 19-month-old Harvard's Investment Club in Boston, Ohio, has put \$9,800 in a 12-stock portfolio and just \$60 in commissions (the portfolio value is \$12,600, a 28% increase).

GOALS. Most groups make mistakes in their first years. In fact, after a year or 18 months, about half the clubs started will disintegrate, says Thomas O'Hara, president of the NAIC. "But the ones that stay go on for a long time." More than 450 of NAIC's member clubs are 15 years old, and many are second-generation clubs.

From helping clubs get established, the NAIC puts out step-by-step Investors' Guides that detail how to build a stock portfolio according to the association's portfolio philosophy. For \$30 a year and a person, clubs get the guides and members get weekly magazines that outline investment ideas. NAIC says clubs should have goals: a target of 10% appreciation every year (a 14.4% annual increase) and a steady 4% to 6% dividend yield. As the NAIC grows, the most essential investment in a company is the management. The association advocates against placing major bets on industry outgrowth products. Instead, it looks for an average growth rate in sales of 10% compounded annually or more. That's very basic advice, but the premise is valid: pay to do your work. *Suzanne Woolley*

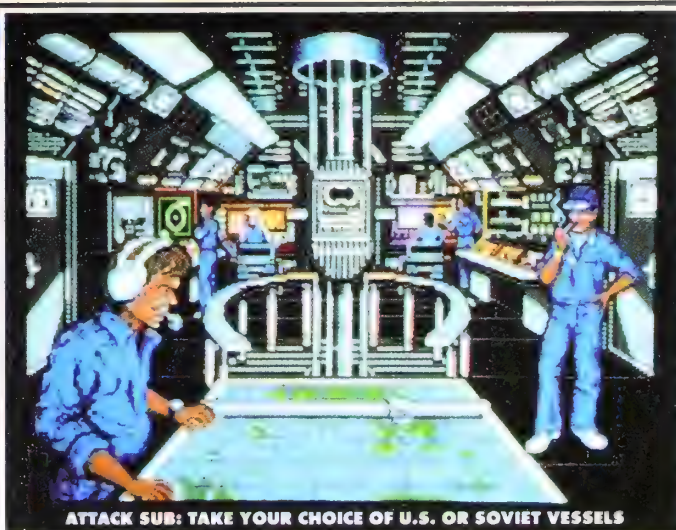
Software

FOR YOUR IBM PC: WILD AND CRAZY GAMES

In the old days, three or four years ago, anyone looking for slick graphics and games software for a personal computer didn't turn to IBM. Computers from Apple or Commodore were the preferred choices. But lately, IBM and the clones have drawn even, and software companies have designed a slew of sophisticated game programs for those PCs.

Programs that simulate real-life thrills are the rage. A color monitor isn't essential to run them, but it helps, as does a joystick or mouse. And you will need a graphics card—either an EGA or the more sophisticated VGA card.

Boot up Chuck Yeager's



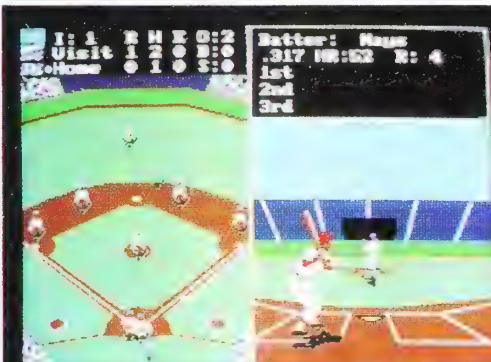
ATTACK SUB: TAKE YOUR CHOICE OF U.S. OR SOVIET VESSELS

(sub) through a series of missions ranging from routine exercises off the Philippines to an attack on Libya. While the game is simple to control and features excellent graphics, the intricacies of modern submarine warfare can be overwhelming.

Software Toolworks has a hit in their witty simulation of an operating room, Life and Death (\$49.95). In the game, players take on the roles of

tions—from fielder positioning to the suicide squeeze—and detailed graphics combine to create a true-to-life representation of the game.

MAGIC KINGDOM. For outright fantasy, there's Might and Magic II from New World Computing. Given command of a band of six varied adventurers of your own creation, you are dropped into the mythical kingdom of Cron, where you can spend hours,



PLAY BALL AGAINST EARL WEAVER... OR MAKE YOUR OWN ADVENTURE IN MIGHT AND MAGIC II



Advanced Flight Trainer 2.0 (\$49.95) by Electronic Arts and experience the excitement of flying any one of 17 aircraft over hundreds of miles of colorful terrain, all in 3-D. Simplified yet realistic controls make Advanced Flight Trainer far easier to pilot than its earlier counterparts, while a clearly written instruction manual guides the novice smoothly into the air.

SUB VERSIONS. Another program from Electronic Arts, 688 Attack Sub (\$49.95), takes simulations a notch higher. Players captain a Los Angeles-class U.S. atomic submarine (or a Soviet Alfa-class

medical students toiling in a large hospital. Diagnostic and surgical procedures are depicted fairly well, while the colorful, accurate, and sometimes hilarious graphics make operating on patient after patient great, if grisly, fun.

Serious baseball fans will enjoy Earl Weaver Baseball (\$39.95) from Electronic Arts. The most advanced program of its kind, the game offers players the chance to manage one of baseball's classic teams, either against a second player or against the computer persona of retired Baltimore Orioles Manager Earl Weaver. Numerous play op-

days, or even weeks exploring cities, dungeons, and vast outdoor tracts on a daunting series of quests.

In a more realistic vein, Balance of Power: The 1990 Edition (\$49.95, from Mindscape) is a geopolitical simulation in which players make decisions on foreign policy for the U.S. or the Soviet Union while trying to avoid nuclear war. Although a knowledge of current affairs is helpful, any intelligent player should be able to think through the game's set-piece crises and dilemmas—which makes it a lot easier than real-world decisions. *J. H. Pluenneke*

Autos

THESE ALARMS DO MORE THAN JUST SCREAM

One of the banes of urban—and, increasingly, suburban—living is the car alarm that wails unceasingly through the night. But now there's an alternative: an alarm that alerts you to a break-in by automatically setting off a tiny beeper in your pocket.

That's one of many alarm innovations available at auto dealers or car-stereo shops. Some beeper systems, such as Crimestopper Security Products' Commander, are so electronically sophisticated that they can signal whether your vehicle has had a window broken or merely been nudged by another car parking too close. At \$500 to \$1,000, the



high-tech systems are pricier than simple siren alarms available for \$150 or so. And installation adds 50% or more to the cost.

RATE BREAK. Most are passive systems that turn themselves on a few seconds after the ignition key is removed. That can cut your insurance rates: Generally, insurers give 5% off for an active system that must be armed manually, 10% for a system that sets itself.

Some siren systems, such as Clifford Electronics' Smart-Siren, let you choose your own dot-and-dash sequence to identify your car's alarm. What if a thief cuts wires to silence the 125-decibel blare? The computer brain disrupts an electrical circuit so the engine can't start.

A key-ring remote transmitter lets you turn the system off before you get behind the wheel. Some, such as the one

in Code-Alarm's \$400 XT-system, work up to 300 feet away and feature a panic ton: If you run into trouble near your car, press its button to sound the siren and flash the headlights.

EARLY START. Other systems—on Clifford's In-Guard 600 system, for example—can operate a vehicle's electric windows and door locks, pop the trunk, or even start the engine from afar.

The \$575 IntelliGuard boasts another feature: to please any owner who's sleep has been disturbed by a wailing siren perhaps falsely triggered by a passing truck jolting a sensor on the bumper. After an initial short burst, the alarm goes silent until the electronics check whether any other sensors—on doors, windows, hood, or trunk—have been disturbed. If not, the siren sounds again to tell you that real trouble isn't afoot. But if it's a false alarm, the system goes back to "guard"—and you go back to sleep.

Don De

When interest rates start falling, you expect the stock and bond markets to do well. But even today's declining rates haven't dampened investors' enthusiasm for money market funds. Part of the reason is that the two industry titans—Fidelity Investment and Dreyfus—are competing so hard to attract money market dollars that both have temporarily reduced their fees, thereby jacking up the yields on their funds.

The battle began in January, when Fidelity launched its Spartan Money Market Fund. A month later, Dreyfus followed with its Worldwide Dollar Money Market Fund. Since then, the two have racked up returns that rank them among the top three money market funds. In the seven days ended Aug. 1, Spartan turned in an annualized 9.4% return and Dreyfus Worldwide 9.48%. Both widely exceeded the average 8.47% of all money market funds. This, plus a

Smart Money

MONEY MARKET FUNDS THAT PACK A REAL PUNCH

marketing blitz, helped them raise a total of \$5.6 billion.

Fidelity and Spartan are both absorbing the operating costs—0.67% is the industry average—that normally hold down yields. For now, Fidelity's

Two big funds are lowering their fees to lure investors

ty's Spartan is paying itself only 0.10% of the fund's assets. And it will keep phasing in fees until they reach 0.45%, where they will stay until 1992. Dreyfus has said it won't impose any fees until Oct. 2, or until it grows from its current \$2.4 billion

to \$3 billion. Even then, the firm may well wait before imposing fees.

There are some big differences between the two funds. Dreyfus has a low \$2,500 minimum and offers free checks, exchanges, and wire redemptions. Spartan requires a high \$20,000 minimum; each check costs \$2, and each exchange or wire redemption is \$5.

LOW RISKS. In terms of the funds' investment philosophy, the two are essentially the same. Spartan doesn't emphasize its international flexibility. But it, along with Dreyfus Worldwide, can invest up to 100% in Eurodollar instruments, which typically yield a bit more than stateside paper. These are mostly CDs and commercial

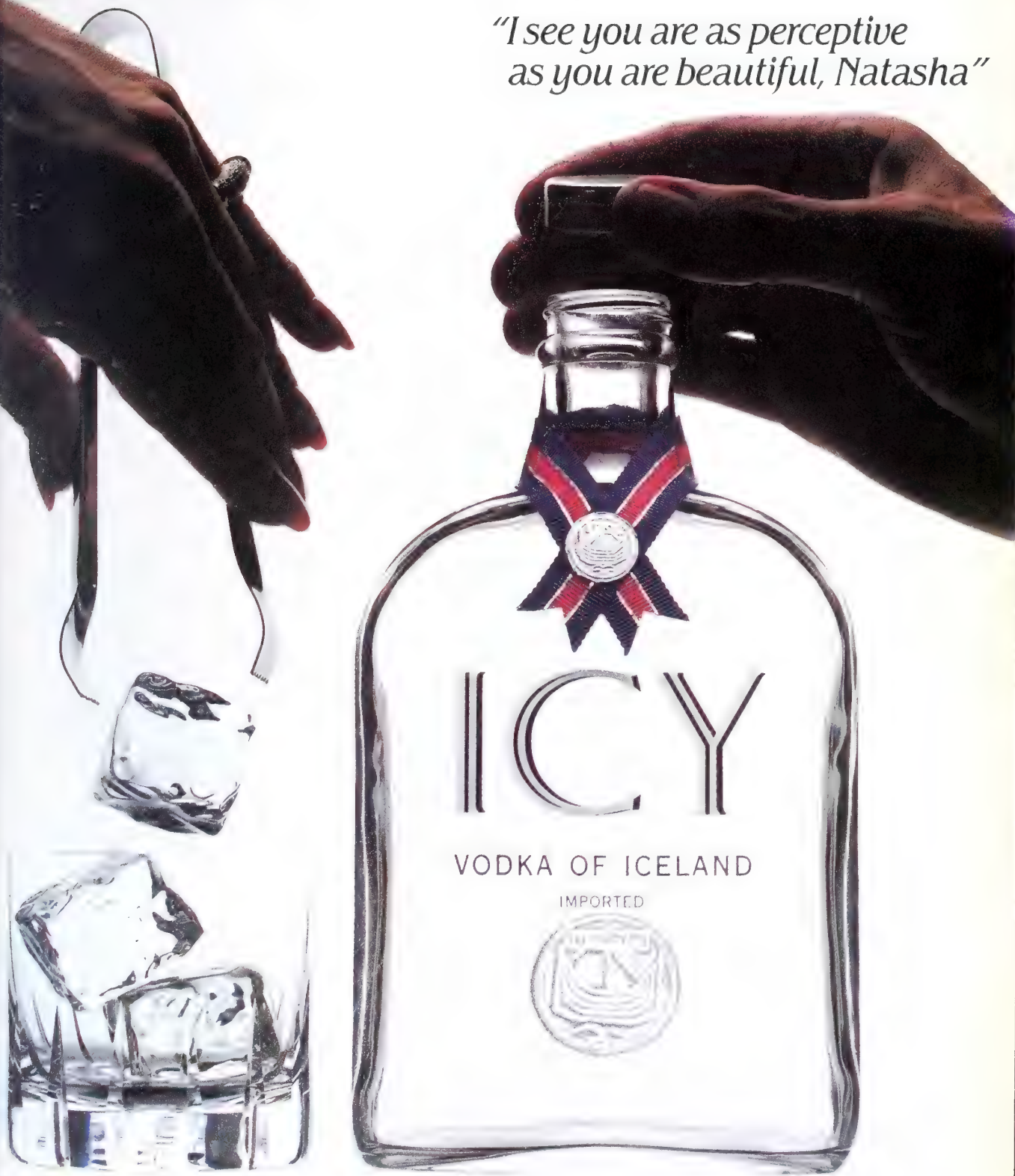
paper, issued overseas and denominated in dollars. And there's no currency risk. Dreyfus Worldwide is currently invested 20% in non-U.S. instruments, less than Spartan's 28%.

The two industry giants aren't the only ones to compete by trimming fees at times. Flex-funds in Dublin, Ohio, has made it into the top 10 money market funds for the past three years by waiving its fees periodically. And Vanguard's money funds traditionally have had the lowest fees—and among the highest yields—in the industry. (For a free copy of *Donoghue's Top Money Funds*, call 800-445-5900.)

Fidelity and Dreyfus are both losing money on their funds, though that's not important to them right now. The funds are designed to slash loss leaders to draw investors "into the store." But if they jack up their fees and the yields start falling, that doesn't mean you have to stay there. Leah Nathans

*"I see you've switched
Vodkas, Vladimir"*

*"I see you are as perceptive
as you are beautiful, Natasha"*



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n afternoon of kiting used to be so uncomplicated—just some and wood and a ball of . But even kites have high-tech. Today's are of lightweight ripstop with graphite and fiber-frames. Even cotton is passé. Now, there's r line," a high-density hylene material that's eds of times stronger tandard nylon kite line. ances in the dual-line

maneuverable kite are the industry's most noted recent innovations. Kites are no longer limited to watching their kites dance aimlessly in the sky. Now, they can control every twist and turn. "Stunt kites" have been around for years, but the improvements in materials have spawned some fantastic creations.

San Diego designer Don Tabor's Hawaiian Team kites, which resemble miniature hang gliders, are the most

popular stunt kites on the market today. They cost around \$150. Also popular are the spinning wind socks that are 90 feet long and 15 feet wide (up to \$1,300) and the crescent-shaped Flexifoil Power kite (\$280 for a 10-foot model), holder of the kite speed world record, 108 mph.

Still, there's no reason kiting has to be expensive. A good stunt kite with dual spider lines runs under \$30.

You can see many of these

exotic kites in Lincoln City, Ore., the self-proclaimed kiting capital of the world. Catch the Wind (800 227-7878), a large mail-order and retail specialty-kite company in Lincoln City, frequently displays huge spinning wind socks at festivals, which are drawing larger crowds every year.

ALONG FOR THE RIDE. Lincoln City has a festival scheduled for Sept. 29-30. On display will be a 150-foot-long spinning wind sock. "Here, tourism and kiting go hand in hand," says David Gomberg, executive director of the Lincoln City Chamber of Commerce and president of Associated Oregon Kilters.

Kite designers aren't through innovating. "We are going through a renaissance, with stunt kites leading the way to even more exciting developments," says Steven Lamb, owner of Catch the Wind. Designers are working on devices that will take "kite-skiers" along for the ride. And if stunt kites are any indication, the sport is bound to find a following—as much of one, perhaps, as an idyllic, simple single-line afternoon in the park. *Jan Frouman*

Tax Tips

TING THE KINKS OUT TANGLED IRS PENALTIES

at ominous letter from the IRS says you made a \$160,000 mistake on taxes. And your night could be just beginning. current laws, one slip could add up to more than actual tax bill, af all the penalties been paid.

t may change soon. Congress is g through the -turvy rules on penalties. The e Ways & Means ittee is consider-reform bill, and a r Senate measure the works. By nd, taxpayers ave a new law, ing down a mind-

boggling code that has grown from 14 penalties in 1954 to more than 150 today.

The reforms will eliminate some of the multiple fines for the same mistake—and will reduce your tax hit from oth-

er penalties. The House bill sets just one fine for inaccuracies, amounting to 20% of the tax underpayment attributable to the error. (If any of the underpayment is due to fraud, you pay 75% of that part.) You will still have to pay fines for substantially overvaluing items donated to charity, for example, but the method is simpler: If you miss the mark by more than 200%, you'll pay 20% of your shortfall. If you're more than 400% off, you'll pay 40% of your error. You now pay graduated fines ranging from 10% to 30% if your mistakes are off by more than 150%.

Congress will make sure that taxpayers still pay dearly for their big mistakes. But an overhaul of the law will, at the very least, make it easier to understand where all the

penalties come from. And the IRS is hoping, of course, that making the punishment fit the crime will go a long way toward encouraging compliance. *Catherine Yang*

Worth Noting

■ **TAXING YOUTH.** For parents whose kids under 14 collect interest and dividends, the IRS has good news. The simple new Form 8814 lets you include up to \$5,000 of each child's unearned income on your 1040 for 1989. Before, children with such income over \$500 had to file a separate return.

■ **NUMBER CRUNCH.** From Calculated Industries (800-854-8075), the Wall Street Wizard calculator (\$80) computes yields, commissions, and more—working with prices in fractions, not dollars: Punch in 5% plus 4¼, and the display shows 10¼.



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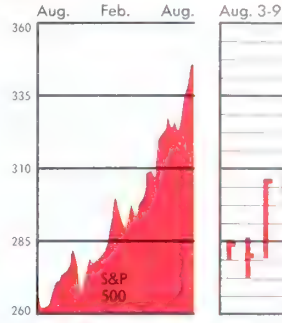
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Investment Figures of the Week

MARKET ANALYSIS

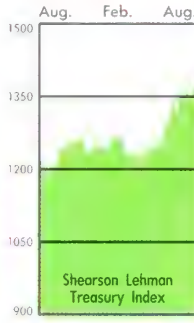
The market's advance continued yet another week. The Dow Jones Industrial Average rose on Aug. 8 to a fraction above 2700—a postcrash recovery after dipping on Aug. 9. The rally was aided by take-off buying. Airline stocks were boosted by the bid for UAL by investor Marvin Davis. Tech stocks plunged on Aug. 4, but reacted to news of a more-than-expected unemployment report. The jobless data fueled the belief that interest rates would not decline.

STOCKS



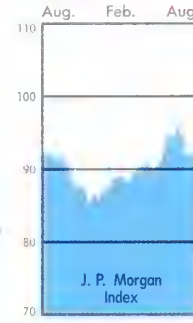
1-week change **+0.8%**

BONDS



1-week change **-3.0%**

THE DOLLAR



1-week change **+1.6%**

MARKET ANALYSIS

SECTORS	Latest	% change Week	% change 52-week
TECHNICALS	2686.1	1.1	32.0
INDUSTRIALS	183.1	0.8	31.6
FINANCIALS (Russell 1000)	176.7	1.3	20.3
UTILITIES (Russell 3000)	196.0	0.9	30.6

STOCKS	Latest	% change (local currency) Week	% change 52-week
FINANCIAL TIMES 100	2360.4	2.3	28.3
NIKKEI INDEX	34,859.3	-0.1	26.5
TSE COMPOSITE	4003.7	0.6	22.2

FUNDAMENTALS

	Latest	Week ago	Year ago
90-DAY TREASURY BILL YIELD	8.2%	7.9%	7.3%
30-YEAR TREASURY BOND YIELD	8.2%	7.8%	9.3%
S&P 500 DIVIDEND YIELD	3.0%	3.1%	3.6%
S&P 500 PRICE/EARNINGS RATIO	13.4	13.4	11.9

TECHNICAL INDICATORS

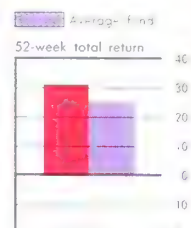
	Latest	Week ago	Reading
S&P 500 26-week moving average	312.3	310.4	Positive
Stocks above 26-week moving average	69.0%	66.0%	Neutral
Speculative sentiment: Put/call ratio	0.21	0.21	Negative
Insider sentiment: Vickers sell/buy ratio	2.02	2.15	Neutral

INDUSTRY GROUPS

WEEK LEADERS	% change 4-week	% change 52-week	Strongest stock in group	% change 4-week	% change 52-week	Price
ENTERTAINMENT	18.5	88.5	WALT DISNEY	22.0	89.1	119 3/8
RAILROAD FIRMS	18.5	39.4	MERRILL LYNCH	21.3	33.2	35 5/8
TECHNICALS	18.3	89.4	UAL	30.1	130.8	219 1/4
SECTOR	16.3	28.5	PHILIPS DODGE	20.0	76.6	68 7/8
INDUSTRY	14.0	11.8	ARMCO	22.6	18.4	12 7/8
WEEK LAGGARDS	% change 4-week	% change 52-week	Weakest stock in group	% change 4-week	% change 52-week	Price
TECHNICALS	0.3	-2.3	BRUNSWICK	-2.2	-21.6	16 3/4
TECHNICALS AND APPLIANCES	0.3	19.6	ZENITH ELECTRONICS	-7.5	-22.3	17
TECHNICALS	1.3	25.5	TIME	-7.1	39.5	141 3/4
STATE INVESTMENT TRUSTS	1.6	-7.7	LOMAS & NETTLETON	-9.6	-32.2	15 1/4
TECHNICALS SERVICES	1.9	-9.2	BEVERLY ENTERPRISES	-5.9	25.5	8

MUTUAL FUNDS

52-week total return		LAGGARDS	
	%	Four-week total return	%
MAN DEAN	12.4	FIDELITY SELECT SOFTWARE & COMPUTER	-3.3
	11.5	STRATEGIC SILVER	-1.3
TY SELECT PAPER & FOREST	10.8	UNITED SERVICES GOLD SHARES	-1.0
52-week total return		52-week total return	
	%		%
SMALL CAPITALIZATION PORTFOLIO	62.6	STRATEGIC GOLD/MINERALS	-24.5
FARE GROUP TREND	55.9	STRATEGIC SILVER	-17.6
TY SELECT BROADCAST & MEDIA	55.4	VAN ECK GOLD/RESOURCES	-11.7



RELATIVE PORTFOLIOS

Investment	Value	% Change
U.S. stocks	\$13,457	+1.63%
Foreign stocks	\$13,098	-1.02%
Treasury bonds	\$12,217	-2.88%
Money market fund	\$10,707	+0.16%
Gold	\$8,453	-0.84%

On this page are as of market close Wednesday, Aug. 9, 1989, unless otherwise indicated. Funds include S&P 500 companies only; performance and share prices are as of market close.

Aug. 8. Mutual fund returns are as of Aug. 4. Relative portfolios are valued as of Aug. 8. A more detailed explanation of this page is available on request.

NEEDED: FEDERAL INSURANCE INSURANCE

The insurance industry's insolvency rolls are swelling. In the property/casualty sector, 84 companies became insolvent in the 14 years between 1969 and 1983, while 90 failed from 1984 to 1988. The cost for recent failures may be as much as \$20 billion.

Many observers predict a shakeout with a further rash of insolvencies. If so, we're in for a lot of trouble. The insurance industry has no federally funded FDIC or FSLIC. Insolvency losses are supposed to be handled by state guaranty funds supported by assessments on healthy insurers. They take on claims obligations from busted insurers. Many of these funds, though, are poorly capitalized and managed.

The state regulatory system isn't up to the task of dealing with a big new insurance crisis. The system was designed for another era, when the cartel ruled, competition was limited, and the business relatively simple. Now, pricing competition can be fierce, the business is mainly in complex liability insurance, and products may be sold nationally or even internationally. The state guaranty funds could easily be overwhelmed by multistate, multibillion-dollar insolvencies. Yet it is common regulatory practice in overworked and understaffed state insurance departments to keep the walking wounded alive in the hope that, with time, they will miraculously revive. Delay is the preferred strategy. That allows the company to take increasingly reckless risks, widening the net and cost when the day of insolvency comes.

We should begin considering some much more secure system of federal insolvency regulation and guaranties. Corporate customers ought to be able to handle their own insurance losses. But the government should protect individual policyholders up to a specified maximum loss level, replacing 50 sets of rules with a uniform standard. And the government should monitor insurers' financial condition.

A radical break with the past is needed. The federal government should create a new body, perhaps patterned on the Federal Reserve, that would monitor national and international insurance companies for insolvency. The mission of this regulator would not be to preserve hopelessly insolvent insurance companies but to get rid of them before they harm the system and policyholders with increasingly complex and expensive claims.

MUSICAL CHAIRS IN JAPAN: A SOUR NOTE FOR THE U.S.

Japan's ruling Liberal Democratic Party has plucked from relative obscurity a routine politician as Prime Minister. The backroom maneuvering that elevated Toshiki Kaifu, 58, to the party's top job will only compound the confusion in Japanese politics. Combined with recent gains by the Socialist Party, it seems to guarantee little chance of progress in further opening Japan's agricultural markets,

liberalizing the distribution system, or wiping out the gelling of construction contracts. All this occurs as Japan's trade surplus with the U. S. shows signs of growing and as Japan's auto, semiconductor, and consumer electronics industries penetrate deeper into the American market.

Of course, political leaders in Japan don't have the power to address economic imbalances. Washington has striven for 15 years, with only partial success, to persuade Prime Ministers to either curb exports or open markets. The truth is, Japan's economy is managed by the vastly more powerful Japanese bureaucrats, in tandem with the countries they regulate.

But even if their role is limited, political leaders do try to deal between ministries and help articulate a vision where the country should be headed. Yet it is unlikely that Kaifu will be able to play even such a limited role. He comes from the least powerful of the five major factions in the Cabinet and is not even the leader of that group. His choice of Cabinet and party officials clearly show that the Nakasone, Takeshita and Shintaro Abe factions, which represent Japan's machine politics, are calling the shots. All this argues poorly for any hopes that bilateral Structural Impeachment Initiative talks scheduled to begin next month will produce any tangible result. As long as Japan plays musical chairs with its Prime Ministers, the U. S. will find the going tough.

CENTRAL AMERICA SENDS A MESSAGE

President Bush and Congress, at loggerheads on what to do with the *contras*, have had the problem solved for them. Central America's five Presidents decided to disband and relocate the 10,000 to 12,000 anti-Sandinista guerrillas from their Honduran border camps.

The U. S. recruited, trained, armed, and financed the *contras*. It has the political and moral responsibility to ensure that the will of Central America's leaders is respected.

Ostensibly, President Bush wants to keep the *contras* in place to pressure the Sandinistas into holding fair elections next February. In fact, both the President and Congress have simply been postponing a decision about the *contras*' future. Central America's leaders concluded, accurately, that the *contras* were finished as a fighting force and ought to get rid of them before they further disrupted the region.

A broader lesson can be drawn from the *contras*. There were an attempt to apply the Reagan Doctrine, which called for covert actions or proxy wars to combat communism in the Third World. Presidents Carter and Reagan had provided support for arming Afghan guerrillas to fight the Russians because the political and moral basis for their policy was sound: The *mujaheddin* were authentic, indigenous fighters who were fighting an invader. By contrast, Reagan failed to convince many Americans that the Sandinistas were a Trojan horse that threatened the hemisphere.

The use of force, direct or indirect, as an instrument of U. S. policy abroad depends on a strong consensus at home as to its legitimate purpose. To act without such support is to risk more fiascos such as the *contras*.

BusinessWeek

AUGUST 28, 1989

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STALKING THE NEW CONSUMER

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BRODART, NC

2000

CAN THE AVERAGE DRIVER TELL THE DIFFERENCE BETWEEN AN INFINITI AND A TRADITIONAL LUXURY CAR?

There are differences of philosophy between a car designer raised in Bavaria and one raised in Kyoto. Not so much on what is fundamentally good engineering, but on what luxury is.

Here's the view from Kyoto:

Infiniti cars are designed for the driver. Its luxury personality is fully experienced at highway speeds as a touring sedan. Even an inexperienced judge of automotive performance will appreciate the ability of an Infiniti to respond accurately to the will of the driver.

The key idea is 'the will of the driver.' For it says that a car is designed to make the driver's experience more enjoyable. That an Infiniti, while it has an impressive road presence, is not a car that you own to impress, but a car that you own to drive.

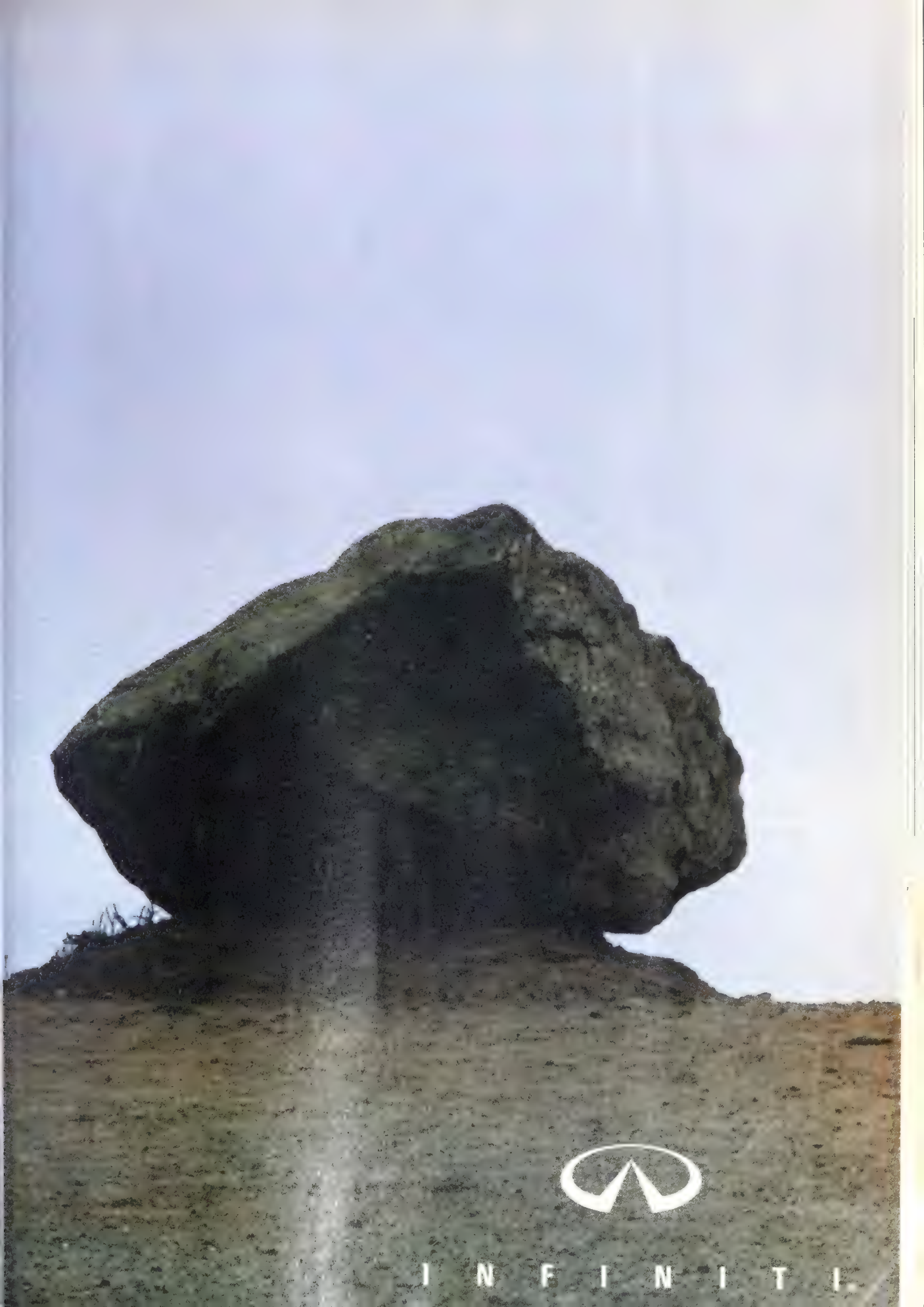
In line with this are the car's simple, natural curves—the lack of gadgets and ornamentation. The use of natural materials for the car's interiors.

These things we believe, show a difference in approach to luxury. Differences which are easy to discern and which depart from traditional standards.

The point is not to make a case for which brand of luxury is better. Only to say that you can judge Infiniti cars on their unique character as luxury-class automobiles.

Call for more information to make your own evaluation or for the name of the dealer nearest you. 1-800-826-6500.

Thank you.



I N F I N I T I



POLISHING THE IMAGE: TO REACH SPECIAL MARKETS, P&G'S MOBILE BABY CARE CENTERS CHANGE 80,000 DIAPERS A YEAR AT LOCAL EVENTS

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Shopping carts with video ads, mouthwash posters at high schools, Jif hydroplanes—they're all part of micro marketing, Procter & Gamble-style. The mass market has splintered into elusive niches, so P&G is experimenting with new media and technologies to pinpoint its customers—and figure out what motivates them

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By signing such top American players as Danny Ferry, basketball in Italy makes a big score

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He grabbed the Hartford Whalers—and now wants to build a high-risk high rise

The Corporation

NO GLAMOUR, LOTS OF MONEY

Ogden racks up \$1.1 billion in sales for operating the likes of waste plants and sports arenas

FIXING UP THE DOLLHOUSE

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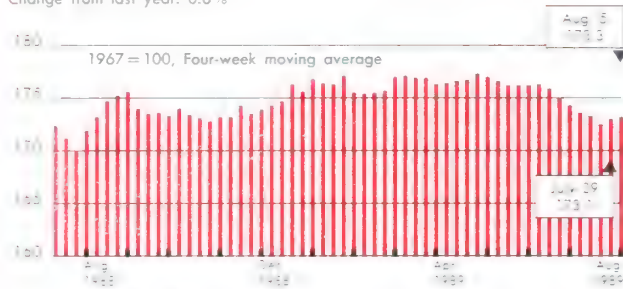
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BusinessWeek Index

PRODUCTION

Change from last week: 0.1%
Change from last year: 0.8%

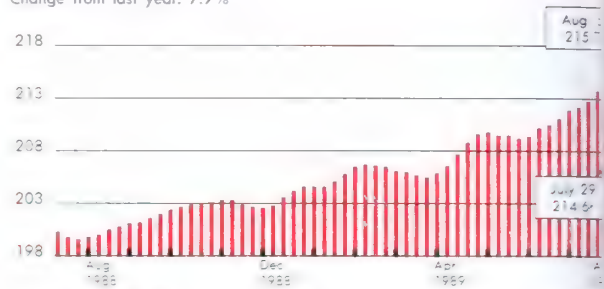


The production index was unchanged for the week ended Aug. 5. On a seasonally adjusted basis, output of steel and trucks was up strongly. That was offset by declines in crude-oil refining, lumber, paperboard, paper, electric power, and coal output. Auto production and rail-freight traffic were unchanged for the week. Before calculation of the four-week moving average, the index dropped sharply to 174.1 from 175.3.

BW production index copyright 1989 by W. B. Shaw & Co.

LEADING

Change from last week: 0.5%
Change from last year: 7.9%



The leading index increased for the week ended Aug. 5. A sharp gain in stock prices, lower bond yields, and faster growth rates for materials prices and contributed to the rise. These were only slightly offset by a small gain in the number of business failures. The growth rate for real estate was unchanged from the previous week. Prior to calculation of the four-week moving average, the index jumped 217.3 from 215.7 in the week before.

Leading index copyright 1989 by Center for International Business Cycle Research

PRODUCTION INDICATORS

	Latest week	Week ago	% Change year ago
STEEL (8/12) thous. of net tons	1,811	1,863	-1.1
AUTOS (8/12) units	108,204	84,752	10.7
TRUCKS (8/12) units	76,188	72,224	9.6
ELECTRIC POWER (8/12) millions of kilowatt-hours	57,467	62,586	-12.1
CRUDE-OIL REFINING (8/12) thous. of bbl./day	13,711	13,427	-0.5
COAL (8/5) thous. of net tons	18,105	18,311	-4.6
PAPERBOARD (8/5) thous. of tons	741.9	752.7	4.3
PAPER (8/5) thous. of tons	719.0	735.0	0.0
LUMBER (8/5) millions of ft.	494.9	522.8	13.7
RAIL FREIGHT (8/5) billions of ton-miles	18.9	19.0	-2.1

Sources: American Iron & Steel Inst., Ward's Automotive Reports, Edison Electric Inst., American Petroleum Inst., Energy Dept., American Paper Inst., WWSA, SFPA, Association of American Railroads.

FOREIGN EXCHANGE

	Latest week	Week ago	Year ago
JAPANESE YEN (8/16)	1.40	1.39	1.30
GERMAN MARK	1.93	1.90	1.89
BRITISH POUND	1.58	1.62	1.70
FRENCH FRANC	6.55	6.43	6.42
CANADIAN DOLLAR (8/16)	1.18	1.17	1.03
SWISS FRANC	1.67	1.64	1.59
MEXICAN PESO (8/16)	2,550	2,543	2,300

Sources: United New York Bank, Comptroller's exchange rate, U.S. dollar exception. British pound expressed in dollars.

PRICES

	Latest week	Week ago	% Change year ago
GOLD (8/16) \$/troy oz.	367.00	364.00	-1.4
STEEL SCRAP (8/15) = 1 heavy, \$/ton	109.00	109.00	-11.0
FOODSTUFFS (8/14) index, 1967 = 100	219.4	221.6	-1.0
COPPER	118.1	118.5	20.4
ALUMINUM	81.3	82.8	-35.5
WHEAT (8/12) = 2 hard, \$/bu.	4.22	4.17	12.5
COTTON (8/12) strict low middling 1-1/16 in., c/lb.	69.81	70.08	1.4

Sources: United New York Bank, Chicago Merc. Commodity Research Bureau, Metals Weekly, Chicago Chamber of Commerce.

Row data: The production indicators are seasonally adjusted in computing the BW index. Other components estimated and not stated include machinery and defense equipment. 1 = Western Wood Products Assn. 2 = Southern Forest Products Assn. 3 = Free market value. NA = Not available. r = revised. NM = Not meaningful.

LEADING INDICATORS

	Latest week	Week ago	% Change year ago
STOCK PRICES (8/11) S&P 500	347.74	344.57	-
CORPORATE BOND YIELD, Aaa (8/11)	8.92%	8.81%	-
INDUSTRIAL MATERIALS PRICES (8/11)	102.7	103.4	-
BUSINESS FAILURES (8/4)	210	207	-
REAL ESTATE LOANS (8/2) billions	\$334.8	\$334.0	-
MONEY SUPPLY, M2 (7/31) billions	\$3,130.1	\$3,121.5	-
INITIAL CLAIMS, UNEMPLOYMENT (7/29) thous.	330	342	-

Sources: Standard & Poor's, Moody's, Journal of Commerce (index: 1980 = 100), Bradstreet (failures of large companies), Federal Reserve Board, Labor Dept. CIBC (initial claims), Bureau of Economic Analysis (money supply and real estate loans).

MONTHLY ECONOMIC INDICATORS

	Latest month	Month ago	% Change year ago
INDUSTRIAL PRODUCTION (July) total index	141.7	141.4	-
HOUSING STARTS (July) annual rate, thous.	1,430	1,419	-
PRODUCER PRICE INDEX (July) finished goods	113.5	114.0	-
RETAIL SALES (July) billions	\$143.7	\$142.4	-

Sources: Federal Reserve, Commerce Dept., BLS, Census Bureau

MONETARY INDICATORS

	Latest week	Week ago	% Change year ago
MONEY SUPPLY, M1 (7/31)	\$776.0	\$775.9	-
BANKS' BUSINESS LOANS (8/2)	319.8	319.3	-
FREE RESERVES (8/9)	19.1	44.9	-
NONFINANCIAL COMMERCIAL PAPER (7/31)	120.5	124.5	-

Sources: Federal Reserve Board, national exception free reserves, which are expressed in two-week periods in millions.

MONEY MARKET RATES

	Latest week	Week ago	% Change year ago
FEDERAL FUNDS (8/15)	9.10	8.95	8
PRIME (8/15)	10.50	10.50	10
COMMERCIAL PAPER 3-MONTH (8/15)	8.71	8.51	8
CERTIFICATES OF DEPOSIT 3-MONTH (8/16)	8.80	8.60	8
EURODOLLAR 3-MONTH (8/16)	8.54	8.48	8

Sources: Federal Reserve Board, First Boston

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AN EYE FOR AN EYE WITH JAPAN?

I agreed with a number of observations pointed out in your story ("Rethinking Japan: The new, harder line toward Tokyo," Cover Story, Aug. 7). However, no matter how drastically Japan may be forced to change in the future, it is most unlikely that America's problems, including trade imbalance and declining industries—or as you put it, "hollowing corporations"—will be solved as a result.

The U.S. has its own structural problems that must be dealt with, rather than dumping the blame on others. All those corporate takeovers and the short-sighted management style that seems to be the norm rather than the exception have been justified for the sake of maximizing shareholder returns. While it has been reported that the U.S. is unhappy about non-Americans buying up Corporate America and its properties, Wall Street investment bankers come to us with acquisition proposals every day. Why not regulate their activities first if Americans are really so unhappy about the current situation?

Toshio Fukuhara
Totsuka-ku, Yokohama
Japan

The new "revisionist" theory—potentially a bullying, mercantilist approach to opening Japan's markets—may cause more economic problems than it solves.

In the early 1980s, Clyde Prestowitz, today's revisionist guru, advised me, as industry coordinator of a strategy to reduce Japanese tariffs on plywood and other processed-wood products, to use the big stick: "Let's shut down log exports. That will get their attention," he suggested.

Fortunately, Prestowitz' advice was ignored. By 1988, processed products made up more than 30% of a \$5 billion

wood-export volume, up from 18% of \$3 billion in 1980. And the multibillion-dollar log trade had not been jeopardized.

I fear Prestowitz' "cut-off-the-log" tactics could well become Representative Gephardt's "keep-out-their-cars," Senator Hollings' "turn-off-their-textiles," or Senator Heinz's "restrict-their-strategies. And that revisionism toward Japan may become a favored ploy by other countries as well. When the U.S.

starts swinging the powerful economic stick, sure, our trading partners will quiver. But they also may draw a weapon or two of their own, e.g., Japan using its clout with American money markets.

Yes, Japan is a tough market to crack. It is singular, looks after its own, and is slow to change. But to say so, matter what an American company does, cannot succeed in Japan" or that "the country is not evolving into a market economy" belies reality.

John V. Ward
President
John V. Ward Associates
Washington

I am glad to read that the policymakers in this country are finally beginning to give the Japanese economic threat the attention it so sorely needs. There is little question in my mind that although on the surface, Japan is attacking this country with intentions not dissimilar to those at Pearl Harbor. The irony is that our laissez-faire attitude and inattention to detail welcomed and welcoming such well-executed strategic blows.

Paul G. Draper
Stanford, Calif.

The growth of the Japanese economy has come at a hefty price. But contrary to the implied message of your cover story, the burden has been borne by Japan's citizens, not ours. Japanese companies are doing well, Japanese people are not. In his book *More Like*

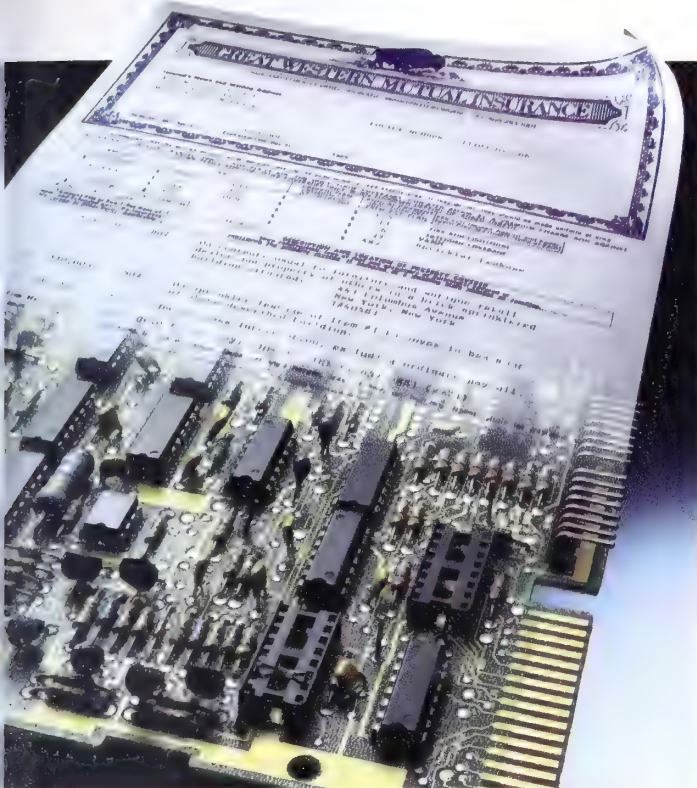


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Readers Report

James Fallows observes that despite their lofty per-capita incomes, Japanese consumers enjoy a material standard of living that is lower than that of even the residents of Italy, one of Western Europe's poorest nations. The reason is that the Japanese government and business community have "cartelized" their economy to the extreme detriment of their consumers (read citizens).

Before U.S. policymakers and voters begin adhering to the facile, oxymoronic notion of "managed trade," they should first consider whether our national economic goals should be to supply the wants of our citizens or to protect the pocketbooks of our corporate elite.

Gordon T. Anderson
New York

The Johnny-come-lately revisionists and their "profound discoveries" in rethinking Japan are all reminiscent of Jimmy Carter's revelation that the Russians weren't to be trusted after all. Slow thinking must be contagious in the nation's capital.

Harold Debbi
Scottsdale, Ariz.

Your cover story states that "Kentucky's \$150 million incentive package for a Toyota Motor Corp. plant helped former Governor Martha Layne Collins lose office." Governor Collins, just like every other Kentucky governor, lost her office because the constitution of the Commonwealth prohibits any governor from serving two consecutive terms.

One of the candidates campaigning to succeed Governor Collins attempted to boost his candidacy with television ads criticizing the Toyota incentive package. After polling revealed negative reaction to the ads, the tactic was totally abandoned for the remainder of the campaign. The thousands of jobs provided by Toyota and the 53 Japanese plants that have followed it to Kentucky are a lasting testament to Governor Collins' vision and the shortsightedness of her critics.

Harrison Hickman
President
Hickman-Maslin Research Inc.
Washington

IN THE LONG RUN, MANAGEMENT KNOWS BEST

The Delaware decision favoring the Time-Warner deal is encouraging ("Time's counterattack is drawing acid reviews," Top of the News, July 3).

Too frequently, shareholders are portrayed as poor victims of self-seeking corporate management. In reality, many

are short-term players who will turn voracious at the opportunity to make a killing on a buyout offer. While few CEOs are selfless philanthropists, most are more dedicated to the long-range success of their company than the investors. Except in cases of gross mismanagement, it is the corporate executive rather than the raider or the shareholder who stabilizes capitalist society.

Hanns John Maier
Ubatuba, Brazil

DON'T GO TO MARS ON A CREDIT CARD

I read with interest "Forget Mars—the race now should be to commercialize space" (Science & Technology, July 31). Perhaps the White House and Congress should swallow their egos and take a lesson from solvent governments. Rather than going to Mars on a credit card, part of the proposed \$100 billion should be spent on factory modernization and employee training through corporate tax incentives. This will help put the U.S. in a better position to utilize both current and future technology. The rest of the \$100 billion should remain in the hands of the taxpayers who earned it.

The greatest threat to this country's future is not our lack of trophies, but rather the deceleration in the standard of living brought on by a government that neither effectively manages its affairs nor lives within its means.

Robert Johnson
Mount Vernon, Wash.

A TAX BREAK COULD STOKE COMPETITIVENESS

Regarding "The trickle-up effect of a capital-gains tax cut" (Economic Viewpoint, Aug. 14), Robert Kuttner has the capital-gains tax cut issue all wrong. It's not about distributing taxes between the wealthy and the poor. The only important issue is: Do you want people investing their money in long-term capital assets or not? Our toughest industrial competitors, Japan and West Germany, both have reduced tax rates on long-term capital gains. How are we going to compete?

R. Mark Davis
Chief Financial Officer
Malaga Savings and Loan Assn.
Palos Verdes, Calif.

A FUNNY THING HAPPENED ON THE WAY TO THE SHOWROOM

The photograph and article "Mazda rolls out a poor man's Maserati" (Top of the News, June 26) grabbed my attention. Imagine, here was one of the

five best cars in the world, and a convertible to boot, for only \$13,800! I was shopping.

The local dealer salesman came aside before I was even out of my door, stood blocking the showroom door, spoke only words of discouragement. My enthusiasm was dampened in a hurry upon being told there are no Mazda in the showrooms, no brochures, and no photo displays available. "The only way you'll ever get to see this car is to place an order now" for delivery in three or four months. Then he quoted a \$16,000 "list price" with an added \$2,500 "dealer premium" for a grand total of \$18,500—a full 37% over the price quoted in the article!

The salesman was unwilling to offer further information without an order in hand. No wonder the average American detests car dealers and car salesmen who take customers so much for granted.

Bruce A. Mitchell
Palm Springs, Calif.

NIKE SPEAKS UP FOR ITS HIKING BOOTS

The article "You don't have to go hiking in clodhoppers" (Personal Business, July 17), which discusses the merits of new-technology hiking boots, contains several misrepresentations of our products.

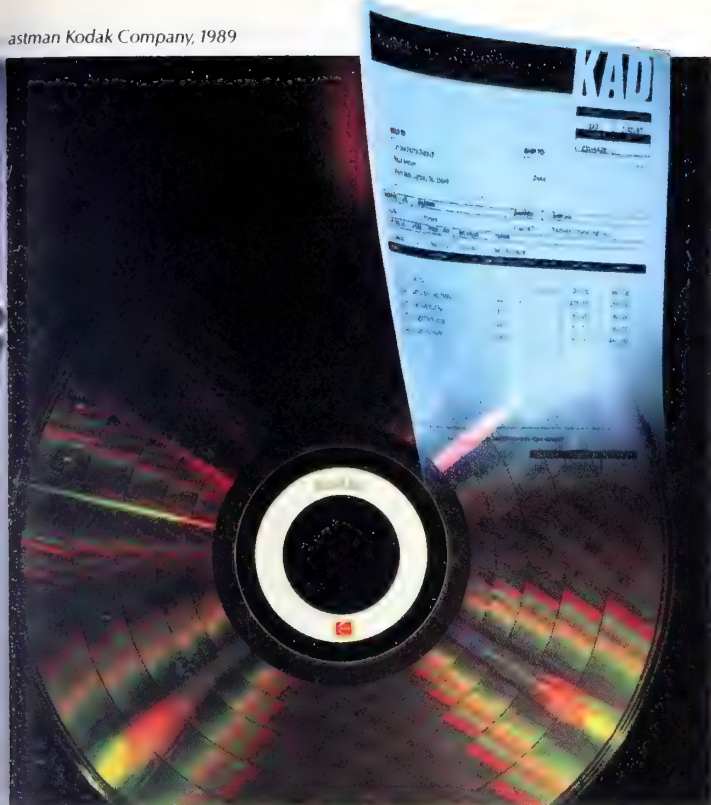
First, the products pictured above in the article are not ours, as the caption would lead the reader to believe.

Second, regarding the support provided by our products, the article claims that Nike products are below par in this area. It would be of benefit to the manufacturers whose products you refer to substantiate in some manner the information you are providing. In one of our comparisons with products from Tec, retailers and consumers have indicated our boots to be superior in every way.

Though we make no claim to be the best in every athletic footwear product category, lightweight hiking boots—a category that first came to market through innovation at Nike, is an area in which we excel, and we will continue to do so.

Sandy Bodeen
Director
Footwear Design & Development
Nike Inc.
Beaverton, Ore.

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WHOSE BROAD STRIPES AND BRIGHT STARS? THE TRIVIAL PURSUIT OF THE PRESIDENCY 1988

By Jack W. Germond and Jules Witcover
Warner Books • 478pp • \$22.95

THE VAPID, VITRIOLIC CAMPAIGN '88

It's a testament to the shallowness of the 1988 Presidential campaign that its most enduring contribution may be to provide fodder for future trivia games. Who was Willie Horton? What was the name of George Bush's running mate? Which incumbent Vice-President was the first in 152 years to be elected President? And who was Donna Rice?

After all, this election revolved around such burning national issues as marital fidelity, the Pledge of Allegiance, and membership in the American Civil Liberties Union—an election in which mediocrity triumphed over ineptitude. Nowhere

few weeks after the vote. Moreover, the 1988 election offered few broad lessons about America's political future. It's no coincidence that the focus of postelection analysis is getting narrower. Upcoming books on the 1988 contest, for instance, will look at Michael Dukakis' campaign, the politics of race, and the press.

Like most others who covered the 1988 election, Germond and Witcover conclude that even if Dukakis had run a picture-perfect race, he probably would have lost. Vice-President Bush had peace, prosperity, and a popular outgoing President on his side. But by squan-

"That so much should have been going on this one debate and on Dukakis' response to that one opening bomb directed at his political weak spots, was a commentary on the trivialization of Presidential politics in 1988," the authors write. "Was a candidate's position for or against capital punishment the acid test for the Presidency?" The press bears some of the responsibility for that trivialization, they note. The TV network obsession with sound bites contributed to a campaign that focused more on process and personalities than on issues.

Germond and Witcover don't hide the fact that they were offended by the campaign, particularly by Bush's tactics. They bemoan the "whatever-it-takes" attitude that turned Bush into a Jekyll and Hyde. During the campaign, Bush administered what amounted to a political mugging of Dukakis. But once the election was won, he softened the rhetoric, moving quickly to unite the country behind his Presidency.



is the message of Campaign '88 conveyed more succinctly than in the title of Jack W. Germond's and Jules Witcover's new book, *Whose Broad Stripes and Bright Stars? The Trivial Pursuit of the Presidency 1988*.

Germond and Witcover, two of the finest political reporters in the business, have assumed the mantle once worn by the late Theodore White as chroniclers of Presidential elections. Their fourth and latest installment is tightly written and entertaining. Even the most familiar stories—Gary Hart's self-destruction, Bush's crushing defeat in Iowa and rebound in New Hampshire, Dan Quayle's selection as Bush's running mate—remain fascinating in this retelling.

But anyone looking for new insight, or even new stories, won't find much original material here. It's not the authors' fault: Presidential contests today are so thoroughly covered in the media that the bones are picked almost clean within a

dering precious time after the conventions and failing to respond to Bush's broadsides, Dukakis forfeited any chance he had to win over the voters.

For the authors, the election's defining event was the second Presidential debate. Dukakis had won the first, but not by a knockout. He needed a decisive victory in the rematch, and he got his chance on the first question. Cable News Network anchor Bernard Shaw stunned viewers by asking Dukakis: "Governor, if Kitty Dukakis were raped and murdered, would you favor an irrevocable death penalty for the killer?" Dukakis had prepared for such a question. He was supposed to reinforce his commitment to fighting crime and to recall how his elderly father, a doctor, had been tied up and beaten by a man looking for drugs. He was supposed to tell how his brother was killed by a hit-and-run driver. Instead, the Democrat's stony answer took the heart out of his campaign.

The irony of the 1988 campaign is that both parties would have been hard-pressed to come up with candidates more devoted to "good government" politics. Both Bush and Dukakis hold an increasingly outdated view that public service is a noble calling. And both have years of experience in government.

But little of that experience was reflected in their campaigns. Dukakis came across as a passionless bureaucrat. Bush as an artful dodger who wanted to talk about the terrible things the other guy would do, not about whether he had any plans of his own. Bush may overcome the baggage of the 1988 election and become a great President. But his chances are just as good that one of the trivia buffs will scratch their heads over the question: "Who succeeded Ronald Reagan as President of the U.S.?"

BY RICHARD L.

White House Correspondent Fly covered the 1988 election.



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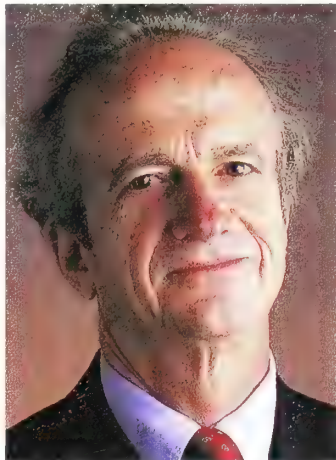
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THE COURTS SHOULDN'T BECOME PINK-SLIP POLICE

BY GARY S. BECKER



The judiciary's main role in labor relations should be to preserve job-market competition, enforce contracts, and pinpoint discrimination. It's in no position to evaluate worker productivity

GARY S. BECKER IS UNIVERSITY PROFESSOR OF ECONOMICS AND SOCIOLOGY AT THE UNIVERSITY OF CHICAGO

The Montana Supreme Court recently upheld a state act, the only one in the nation, that forbids companies to fire workers without showing what's termed "good cause." Whether a business can do so is determined in court when suits are brought by discharged workers.

Although the Montana statute greatly limits damages and excludes recovery for emotional distress, the statute as a whole is a mistake. Discharge of employees should continue to be at the discretion of employers—in legal jargon, "at will" or "no fault"—unless it's limited by explicit union and nonunion contracts and procedures. After all, workers are able to quit without proving their employers engaged in wrongful behavior, except when contracts stipulate the length of service.

U.S. companies and workers in most industries are facing severe competition from goods produced elsewhere. It's an especially bad time to saddle such businesses with inefficient employment practices that raise costs and lower profits in the short run but mainly harm workers in the long run.

Economic efficiency requires that management retain most of the power to determine which workers are best-suited to a company's needs and to fire workers who don't get along with others or produce enough to justify their salary. The result is usually appropriate levels of employment and pay if employers have to compete for workers. With competition, employees can move to other companies if they're not earning as much as they're worth. And businesses with a reputation for fair treatment are able to attract a higher-quality and more loyal work force.

RARE CASES. Some workers are laid off when the economy is depressed or their companies run into trouble. Others are fired for unsatisfactory performance soon after they start working. Studies show that the great majority of workers who lose their jobs find new ones quickly at comparable pay and seldom litigate their discharges.

Wrongful-discharge suits are more likely to be brought when new supervisors fire workers with whom they don't get along and who have seniority, when management decides to restructure employment, or when new bosses conclude that some workers are overpaid. The bringers of such suits typically are discharged workers who remain unemployed for a long time and have to take substantial cuts in pay to get new jobs. They tend to be older employees with seniority. Many of these suits appear to be brought in hopes of getting an out-of-court settlement from a management

that fears a jury will be sympathetic toward a discharged older worker.

In the Montana case, the company nursing-home operator, claimed the plaintiff was discharged because of corporate restructuring, while the 66-year-old employee who brought the suit alleged that his firing violated an implied understanding that he could remain at the company for the rest of his working life. The worker's claim appears unlikely, for how many smaller companies in highly competitive businesses with uncertain futures would make such long-term employment commitments?

But behind the Montana case is a rather typical situation: Many wrongful suits are based on the worker's assertion that there was an implied agreement for a continuation of employment. A court, however, is a poor place to determine when an implicit understanding is expected to give way to the demands of the competitive and rapidly changing conditions that are found in most industries.

POOR SUBSTITUTES. The main role of the judiciary in labor relations should be to preserve competition among employers and to enforce labor contracts. The courtroom is a good place to decide when contracts have been violated and to pinpoint obvious examples of discrimination by race, gender, or religion. Injuries and judges are poor substitutes for competitive employer evaluations of worker productivity. Why waste considerable resources on litigation that makes little economic sense and introduces further uncertainty into employee-employer relations?

Rather than laws requiring employers to prove employee "fault," workers need to have clearly stated rules about seniority conditions, especially pay, in the event that they're fired. Such rules are now explicit in most larger companies and it might be useful to require businesses to have them. But some congressmen and state legislators have been eager to go much further and pass politically appealing and vague laws about wrongful discharge. Legislation in some European countries is even more extreme and flatly denies the employer's right to fire workers, except for the most blatant behavior.

Wrongful-discharge laws illustrate a tendency in the U.S. for legislatures to pass the buck to the judiciary, which must then interpret and implement policies that have little economic justification and are ill suited to courtroom adjudication. Communist countries are learning the value of relying on competition rather than rules to regulate economic affairs. Why are capitalist countries forgetting this rudiment?



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Economic Trends

BY GENE KORETZ

WHY ASIAN COUNTRIES BLOSSOMED WHILE LATIN AMERICA WILTED

Consider the following: From 1981 to 1988, per capita gross domestic product in Argentina, Mexico, Peru, and Venezuela actually declined 10% to 15% and rose a minuscule 1.5% in Brazil. Meanwhile, real per capita GDP in the newly industrialized countries (NICs) of East Asia—Korea, Taiwan, Hong Kong, and Singapore—expanded by an astonishing average of about 38% from 1980 to 1986. Indeed, by 1987 the four NICs were actually exporting more than six times as

ments the freedom to pursue economic policies that promote efficiency and growth even when such policies involve short-term sacrifices. In contrast, the extreme income inequality in Latin America produces intense political pressure to stave off unrest among the poorest groups by resorting to expansionary fiscal policies—particularly when external shocks threaten the economy. At the same time, the wealthy elite exercise their power to avoid fair taxation that could lead to fiscal balance.

A comparison of Brazil's and Korea's economic performances over the past two decades illustrates the process. Like several other Latin American countries, Brazil posted respectable growth in the 1970s. In fact, its average annual growth rate of 9% from 1965 to 1980 was on a par with that of Korea's (9.5%), as was its dependence on oil imports and external borrowing. By the late 1970s, however, Brazil's savings and investment rates had plummeted, while Korea's savings and investment rose sharply and remained high in the 1980s.

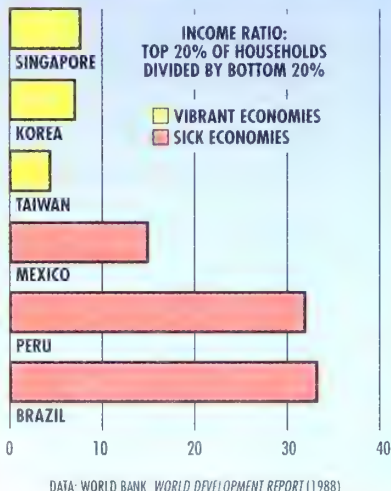
In essence, explain Sachs and Sundberg, Brazil responded to the oil shocks of the mid- and late 1970s by borrowing overseas to preserve consumption and real wages, while Korea adopted a stabilization program that protected investment while allowing real wages to stagnate between 1979 and 1982. The payoff for Brazil was a brief period of prosperity and continued wage growth, followed by its current crisis and a 2,200% inflation rate. Meanwhile, Korea became the world's 10th-largest merchandise exporter, posted 13% growth last year, and is about to become a net creditor.

Can Latin America break out of its cycle of self-defeating policies that foster recurrent economic crises and political instability? Given the extreme poverty that plagues the region, Sachs contends that orthodox austerity measures are not sufficient to remedy the situation. What is needed, he says, is "a middle path that charts a return to economic stability while addressing the real problems of income inequality."

revision occurred in service categories—restaurants and food stores—"suggesting an initial undercount of summer part-time seasonal employees."

Resler points out that the number part-time employees registered by household employment survey expanded by 249,000 during June and July. Since the payroll survey counts jobs, while household survey counts people employed, Resler theorizes that the late payroll numbers may reflect a pickup, moonlighting, as people take on multiple jobs. "If recent payroll employment gains are largely a reflection of a surge in part-time employment," he says, "implications for income growth and underlying strength of the economy are less positive than many people believe."

DOES INCOME INEQUALITY FOSTER ECONOMIC CRISIS?



much in manufactured goods as all of Latin America.

Why have the NICs become a paragon of rapid growth, while much of Latin America has become an economic basketcase? In a recent paper, Jeffrey D. Sachs and Mark W. Sundberg of Harvard University attribute the NICs' startling success to such factors as high national savings and investment rates, conservative fiscal policies, export-oriented trade strategies, rapid and flexible responses to external economic shocks, and the example of nearby Japan.

But the critical factor, argues Sachs in several recent studies, appears to be socioeconomic: Income is distributed relatively equally in the NICs, whereas income inequality in Latin America is unusually high. (In Peru, for example, nearly half the nation's income goes to just 1% of the population.)

In Sachs's view, the relative income equality of the NICs gives their govern-

PHONE WORKERS WILL CAUSE STATIC IN THE STATISTICS

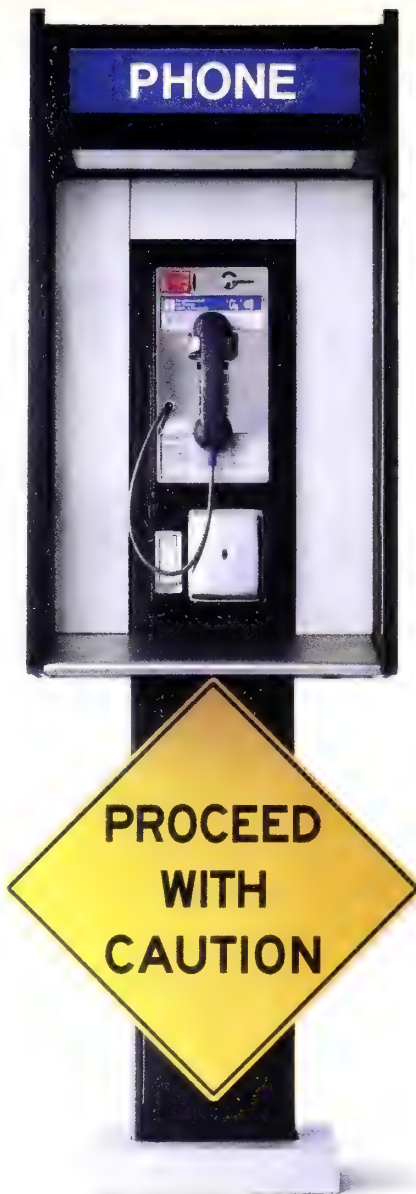
The spate of telephone company strikes may make some August economic statistics look deceptively weak, observes economist Nicholas S. Perna of Connecticut National Bank. Because a payroll survey was taken during a week that contained Aug. 12, when 150,000 communications workers went on strike, a sizable number could be trimmed from August's payroll count. Moreover, the payroll data are used in computing the wage and salary component of personal income, so personal income growth in August is also likely to appear lackluster.

LIMITING ABORTION ECONOMISTS START GAUGING THE IMPACT

With some states likely to limit accessibility of abortion in the wake of the latest Supreme Court ruling on the issue, economists are already calculating the impact. Theodore J. Joyce and Naci H. Mocan of the National Bureau of Economic Research estimate that a ban on abortions in New York City starting last year would have boosted births to teenage mothers by about 20%, resulting in 2,143 black and 1,143 white unintended births to adolescents in 1988 and 1989. Since teenage mothers are usually unmarried, and their children tend to experience health and cognitive difficulties, the costs to society, higher welfare benefits and other problems could be considerable. Illegitimate births now account for some 25% of U.S. births.

MOONLIGHTING MAY DIM THE JOBS OUTLOOK

Although July's employment report showed a rise of only 169,000 in payroll jobs, most observers were impressed by the sharp 39% upward revision in June payroll job growth, from 180,000 to 250,000. But economist David H. Resler of Nomura Securities International Inc. notes that most of the June



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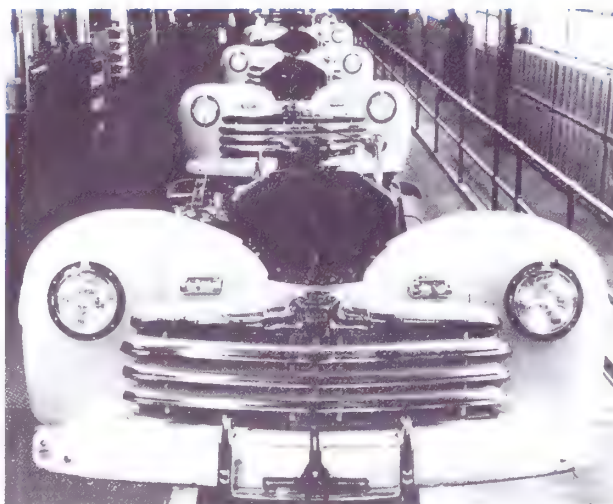
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BusinessWeek
THERE IS NO SECOND PLACE.

THE FED MAY STOP EASING FOR A WHILE

When the Federal Reserve Board's policymakers sit down on Aug. 22 to plot credit strategy for the coming weeks, they will likely be beset with themselves, despite grumbling from the White House Administration (page 24). The Fed's monetary tightening from March, 1988, to March, 1989, is working: Economic growth and inflation are moderating. Recession fears are fading. True, consumer spending slowed, but July's solid gain in retail sales shows shoppers haven't quit buying. Continued gains in wages and incomes are seeing to that. Lower interest rates, the result of Fed easing since April, are helping. Strong demand for homes lifted July housing starts, and retail sales have rebounded.

Adding icing on the cake is the improved outlook for the economy. Producer prices of finished goods fell for the second consecutive month in July. Businesses are adjusting inventories and output in response to sluggish demand in the first half. Industrial production remained flat in July, further easing strains on capacity. The inflation rate is diminished price pressure.

With everything going its way, the Fed will likely be reluctant to put further credit easing on hold for a while. It means the four-month drop in interest rates is probably over, at least until the money managers can get a better reading on what they have already wrought.

DOESN'T SEEM TO BE TIGHTENING YET

That reading should keep the Fed happy. Along with consumers' willingness to keep spending, the generally excellent condition of business inventories helps fuel optimism about continued growth. With few exceptions, notably cars, stocks aren't accumulating excess inventory, so there shouldn't be severe production cuts that could topple the expansion (chart).

OLD CARS SWELL RETAIL STOCKPILES



FIGURE 1: PERCENT CHANGE IN INVENTORY, YEAR-TO-DATE. DATA: COMMERCE DEPT., BUREAU OF ECONOMIC ANALYSIS.

July, but most of that weakness was in autos, where consumer spending had been particularly sluggish. Because of a jump in shipments earlier in the quarter, the

factory sector's inventories at the end of the second quarter would last 1.58 months at the current pace of sales. That ratio is slightly below its first-quarter level.

The big inventory problem has been autos, especially at the showrooms. Inventories at car dealerships have grown very rapidly this past year. By contrast, other retail inventories have increased at a fairly steady pace.

Car dealers got some relief in July. Sales surged 2.7%, thanks to heavy advertising and financing incentives. That jump, together with production cuts at auto plants, helped bring down inventories. Dealerships ended July with a near-normal, 65-day supply of unsold new cars, compared with a 75-day supply in June.

HOUSES ARE GOING UP AGAIN

Strong car sales paced the overall 0.9% gain in July retail sales, to \$143.7 billion. And consumer interest in car buying continued into early August, when new domestically made cars sold at a 7.9 million annual rate, up from 7.6 million for all of July. If consumers keep buying cars at that healthy clip for the rest of the month, retail sales should increase again in August, and auto inventories would be pared even further.

Consumers also increased their spending on goods other than cars in July. Nonauto retail sales rose 0.4% that month, following a weak 0.2% rise in June. Spending at department stores and on building materials and food led the gain. Apparel sales were down 1.5%, and gas-station receipts were flat. Both of those weak performances probably reflected price declines, however.

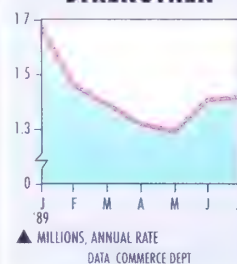
Furniture store sales in July were off as well, but those retailers had posted huge increases in the previous two months. And since the housing sector is attempting a modest comeback in the third quarter, sales of home-related goods should continue to do well.

In July, housing starts rose 0.8%, to an annual rate of 1.43 million (chart). Single-family starts, weak in both May and June, jumped 6.3%, to a 1.04 million annual rate. That means homebuilding began the third quarter well above its second-quarter level.

One surprise in the latest retail sales report: There was a large upward revision of the data for previous months. In particular, the May figures now show an increase of 0.8%, instead of a drop of 0.1%.

The revisions to retail sales for all three months of the

HOUSING STARTS STRENGTHEN



▲ MILLIONS, ANNUAL RATE
DATA: COMMERCE DEPT.

Business Outlook

last quarter show that spending on goods was probably not as weak as was first thought. Inflation-adjusted spending at retail stores fell at an annual rate of only 1.4% in the second quarter, instead of 4% as previously estimated. This suggests that consumer spending may be revised upward when second-quarter revisions to the gross national product are released on Aug. 29.

But the slower growth in inventories in June means that the change in second-quarter nonfarm inventories was probably less than previously estimated. That would subtract from GNP growth, but leaner inventories will support continued gains in production in the second half.

OUTPUT ISN'T STRAINING CAPACITY

Detroit's inventory problem played a big role in the recent sluggishness in industrial output. Production in the nation's factories, utilities, and mines rose a modest 0.2% in July, following a 0.1% decline in both May and June. Car output fell sharply in July, to an annual rate of 6 million—from an already low 6.8 million in June.

Production looks stronger in other sectors. Output of business equipment, excluding cars, posted another sizable increase in July. Production in the large-materials sector rebounded after weakening in both May and June. And output of consumer soft goods rose broadly for the second consecutive month.

Still, production gains in general have been small enough to avoid straining capacity. The operating rate in all industry was unchanged in July at 83.6%, and the rate in manufacturing fell 0.1%, to 83.9%. That's helping to keep price pressures at bay.

ENERGY PRICES LOSE ENERGY

There's no question that inflation, at least at the wholesale level, is moderating. Producer prices for finished goods have done more than just slow down: They fell 0.4% in July and 0.1% in June (chart). Lower energy prices—down about 3% in both months, after big increases earli-

er this year—led the declines. And food prices barely gained in July, up 0.1%, following a 0.8% drop in June.

Even excluding volatile food and energy prices, finished-goods prices still fell 0.2% in July, led by cars and tobacco products. New car prices plunged 1.9%, the result of Detroit's incentive programs. And tobacco prices, which soared temporarily in June, fell back in July. The performance of prices elsewhere was also favorable.

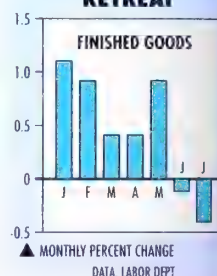
That was particularly true in the earlier stages of processing. Prices of crude materials rose only 0.2% in July, after a 2% drop in June. Excluding food and energy, crude-materials prices have fallen sharply for four consecutive months. Prices of intermediate goods, materials that have had some processing, are equally tame.

Such moderation is a big plus for the second half: The easing of price pressures is starting to work its way forward to finished goods. So far this year, inflation in finished goods other than food and energy is running at a 3.8% annual rate, down from 4.3% during all of 1988.

The favorable outlook for energy prices should more than offset any price pressures from food. Recent government estimates of crop production this fall are a bit below expectations. But crude-oil prices have fallen about \$2 a barrel in recent months, after continued bickering in OPEC should at least keep them stable—or maybe push them lower.

The improving outlook for inflation at the wholesale level will help moderate consumer prices. But reducing the core rate of consumer inflation—prices excluding food and energy—won't be easy. Services, where gains are likely to remain stubbornly high, make up half of the consumer price index. That's another reason for the Fed to keep credit policy on hold for a while.

PRODUCER PRICES RETREAT



THE WEEK AHEAD

FEDERAL BUDGET

Monday, Aug. 21, 2 p.m.

The federal government will likely post a \$20 billion deficit in July, down from last year's \$22.9 billion gap. July 1 fell on a Saturday, so some July social-insurance payments were paid in June. That lowered outlays last month. July's expected figure would place the deficit at \$126 billion so far in the fiscal year ending on Sept. 30. Thus, the 1989 deficit may come in below the Administration's estimate of \$148.3 billion.

DURABLE GOODS ORDERS

Tuesday, Aug. 22, 8:30 a.m.

Most economists believe that new orders placed at durable goods manufacturers

fell by about 1.5% in July, after rising a small 0.4% in June. Most of the July weakness was probably in the aircraft and auto industries. New orders, excluding those for aircraft, have been weak since last December. As a result, the level of unfilled orders, excluding aircraft, has fallen for four consecutive months. That means output and hiring in the durable goods sector could be sluggish this quarter.

CAR SALES

Wednesday, Aug. 23, 4:15 p.m.

New domestically made cars probably sold at a 7.6 million annual rate in the second 10 selling days of August. Sales were strong in early August, at a 7.9 million pace. The problem is that heavy

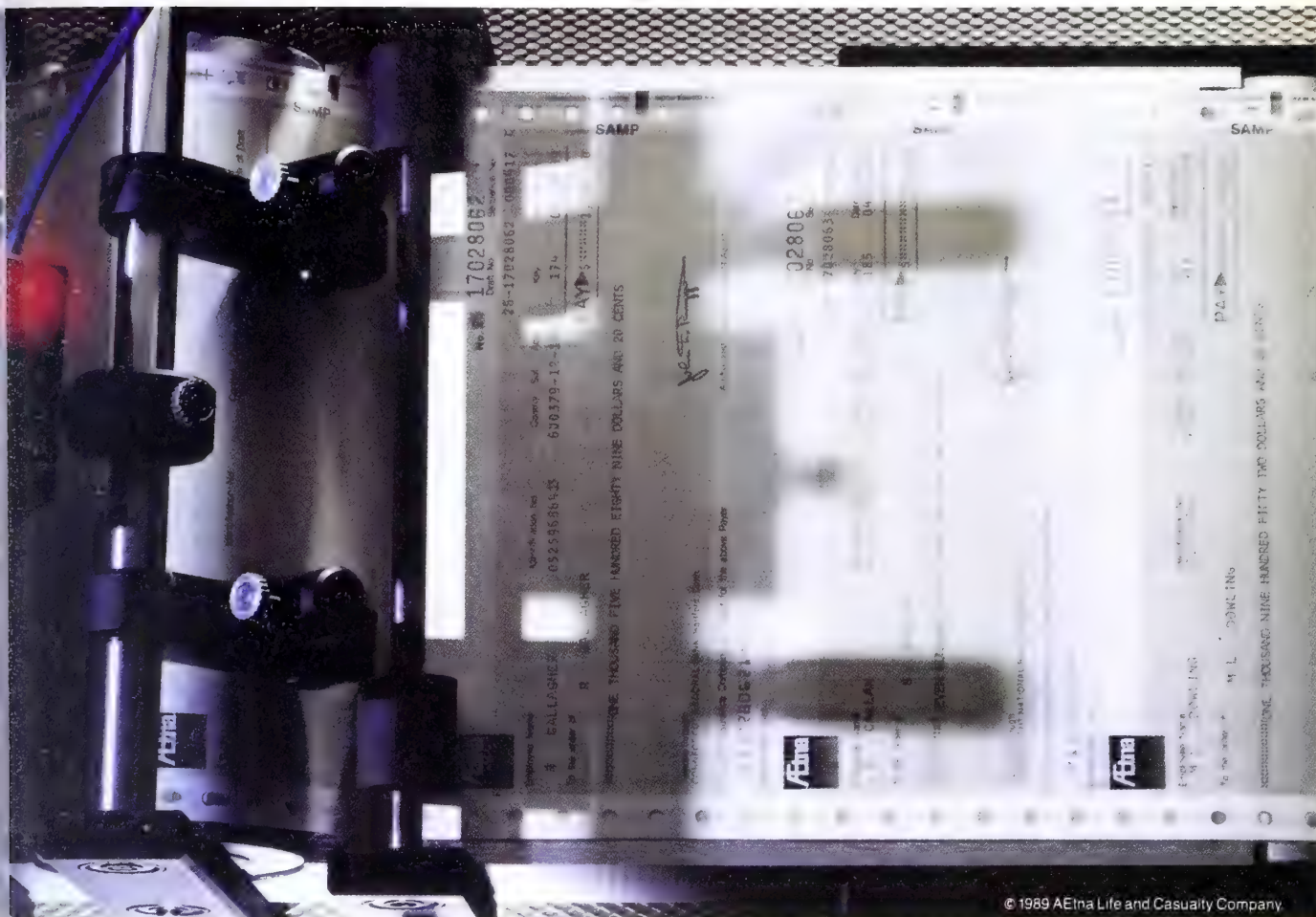
car buying in August may be stealing sales away from the new model year, which starts in September and will include price hikes for most models. If auto makers may have to start new incentive programs for 1990 models earlier than they would like.

INITIAL UNEMPLOYMENT CLAIMS

Thursday, Aug. 24, 8:30 a.m.

New claims for state unemployment insurance benefits were most likely flat at an annual rate of 345,000 during the week ended Aug. 12. For the week ended July 29, claims were initiated at a yearly pace of 330,000. Jobless claims have been rising since early May. That indicates economic growth may slow further in the months to come.

The check really is in the mail.



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A BOUT OF FED-BASHING

BUSH'S MEN PICK A FIGHT THEY'LL LIKELY LOSE

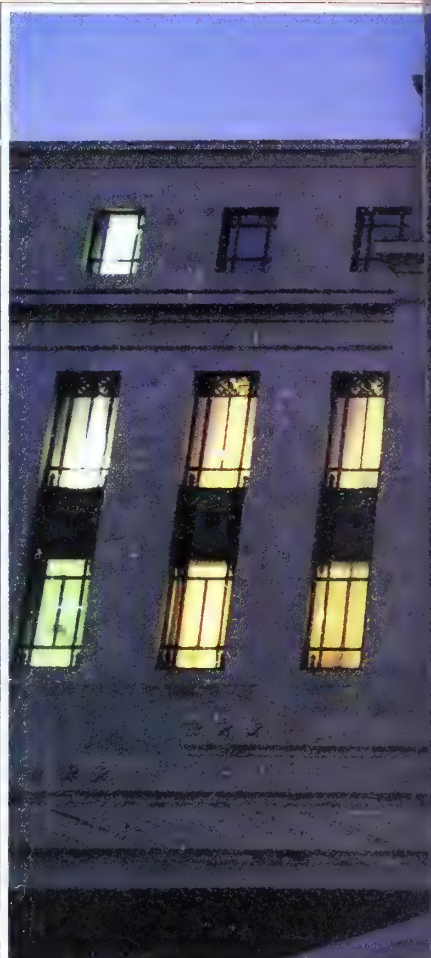
It's like a rare strain of economic malaria that the Bush Administration just can't shake. For months, the White House seems quietly content with the economy's course, muting its concerns about slowing growth and publicly praising the Federal Reserve for a fine job of monetary management. But then, out of the blue, the Administration gets the jitters—and it lashes out at the central bank. Fed-bashing fever has struck again, infecting no less than the President himself. This time, the Bush-men are likely to discover that they've picked a fight they didn't need—and one they're not likely to win.

Budget Director Richard G. Darman launched the most recent attack when he was asked by a TV interviewer on Aug. 13 about the Fed's performance in slowing the economy. He warned that the central bank should "be more attentive to the need to avoid tipping this economy into a recession." The timing seemed deliberate, for the comments came as Fed officials prepared for the Aug. 22 policymaking meeting of the Federal Open Market Committee. And

two days later, Bush himself praised Darman for his "very balanced" comments. "I feel very comfortable with him sallying forth and saying that," he said.

Conflict between a growth-oriented White House and an inflation-fighting Fed is nothing new. Bush and his minions have been sniping at the Fed from the trees whenever an economic statistic strikes them as worrisome. The White House cringes at the prospect of a recession, which would bloat the budget deficit and doom hopes for increasing GOP ranks in the next Congress. Some economists share those fears, fretting the Fed's 15-month campaign of tightening has sent the economy into a downward spiral. "The Fed is pushing us pretty close to recession," says Shawmut Bank chief economist Peter Kozel.

SKITTISH TRADERS. Bond traders, in contrast, worry that the economy is too strong. Those fears were fueled by new figures on retail sales showing revived consumer spending. Worry also grew with an Aug. 16 report that industrial production rose 0.2% in July—and was much stronger outside the depressed



auto industry. Economists predict an upward revision in second-quarter gross national product from the 1.7% growth reported earlier; some expect even faster output in the current quarter.

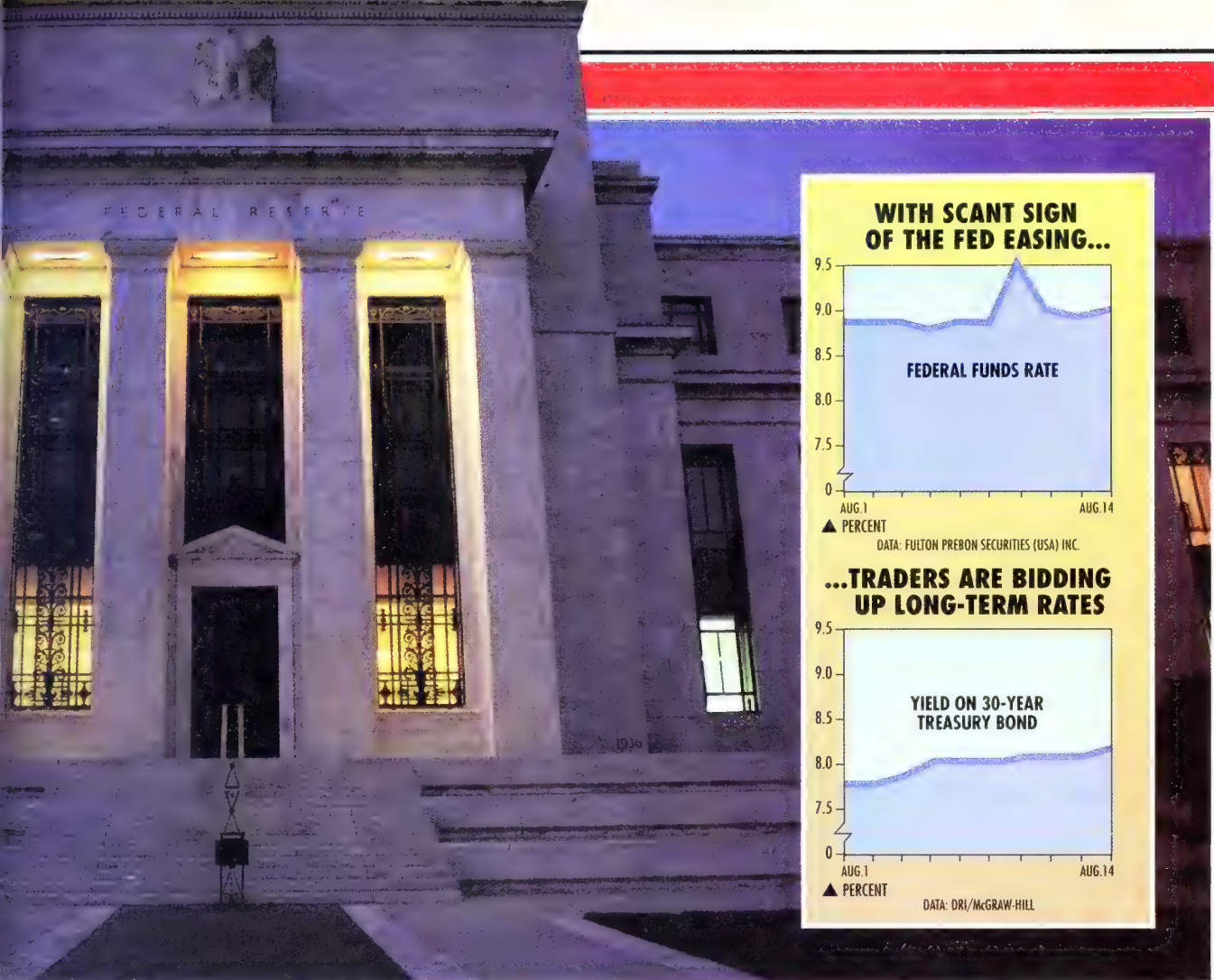
Facing massive issues of Treasury bonds in the weeks ahead—the Treasury must borrow \$20 billion by Sept. 30 to fund the thrift bailout—skittish traders dumped bonds. Long-term interest rates shot up as the price of the Treasury's new bellwether 30-year bonds dropped by 1½ percentage points on Aug. 18 (charts). Bargain hunters soon moved in, but traders who had staked their hopes on faster Fed easing remain fearful.

Yet inside the Fed, officials aren't panicking. Neither a collapse into recession nor an outburst of growth seems likely, they say. Instead, the economy appears to be settling into the inflation-taming "soft landing" sought by the Fed since March, 1987. "The policy so far is producing something near what I'd expected, some slowing, without taking the economy all the way down," says Kansas City Fed President Roger Guffey.

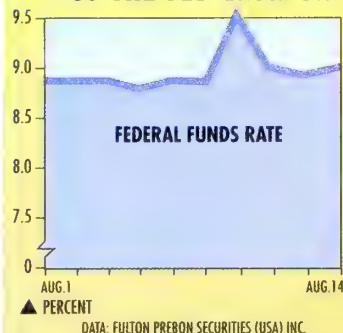
For the Fed, the primary concern isn't the economy's rate of growth but inflation. Alan Greenspan has staked his reputation as Fed chairman on achieving



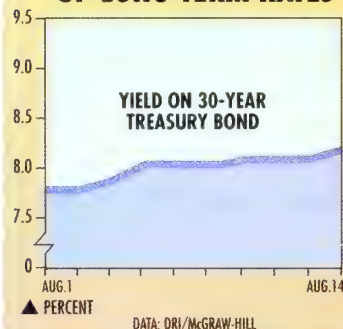
DARMAN'S ATTACK CAME AS A SURPRISE, SINCE A SOFT LANDING SEEMS TO BE IN THE WORKS, AND GREENSPAN HAS SUCH CLOSE TIES TO THE WHITE HOUSE



WITH SCANT SIGN OF THE FED EASING...



...TRADERS ARE BIDDING UP LONG-TERM RATES



price stability—ideally, a zero rate of inflation. The strategy appears to be paying off: Producer prices, after rising at a 1% annual rate in the first five months of the year, fell in June and July. But the Fed's inflation hawks aren't going to declare victory based on two months' numbers and flood the markets with credit. Instead, the central bank will ease rates down the same way it raised them—one careful step at a time. "Caution was the watchword when we were raising rates," says Guffey, "and it should be the same on the way down."

Confident that they're on the right course, Fed officials are willing to shrug off complaints. "I take some comfort in the fact that we're getting criticized from both sides," quips Boston Fed President Richard F. Syron. But privately, officials are puzzled by the White House's sudden attack—especially at a time when signs of recession are few. "Darman must have gotten carried away," says a Fed governor. "I doubt that that reflects his view of the world."

In fact, Darman was stating views widely held within the Bush camp—but in stronger terms than most in the Administration care to use. Bush himself led the Fed-bashing in the early days of

his Presidency, expressing a gut yearning for cheaper money and faster growth that dates back to his days in the Texas oilfields. Administration aides believe the Fed is exaggerating the risk of inflation and can afford to ease. "The disagreements are minor now," says one senior Administration official, "but would clearly grow if the Fed didn't take action should we see any further signs of weakening."

WHIPPING BOY. Darman has special reasons to push the Fed now. A recession anytime soon would crush his fragile compromise with Congress on next year's budget and wipe out his hopes for a deficit-slashing deal for fiscal 1991 and beyond. Given those interests, Darman was the natural candidate to go public with a message the Administration has pushed behind the scenes for months: If a recession hits, blame the Fed. White House spinmeisters are planting that idea now, hoping it will take root by the time a downturn comes.

The Fed has always accepted its role as economic whipping boy. Indeed, Greenspan admitted to Congress last month that Fed policy mistakes could cause a downturn. But officials find the public Fed-bashing strange in light of

the excellent private rapport between the central bank and the Bush Administration. Darman and White House economist Michael J. Boskin, says a Fed staffer, "speak often and at length to our people, all up and down the line."

Greenspan often dines at the White House and recently spent a weekend at Treasury Secretary Nicholas F. Brady's retreat on Maryland's Eastern Shore. Indeed, the Fed and Treasury chiefs see each other so frequently that they sometimes cancel their weekly Thursday breakfast meetings because they have little left to discuss.

By bashing the Fed now, Bush risks straining those close ties, without much chance of affecting the central bank's policy decisions. Fed officials insist that they won't be swayed one way or the other by political pressure. Greenspan has jealously guarded the Fed's independence. In a close call, when the economy might really be teetering between growth and recession, the central bankers might go against the Administration rather than risk appearing to cave in. In that case, pointless Fed-bashing could prove to carry a high cost.

By Mike McNamee and Howard Gleckman in Washington

BUSINESS MAY HAVE FOUND A WAY TO DEFANG RICO

Congress is close to passing legislation that would weaken the law

Two years ago, Ramona E. Miller-Jacobs walked into the Burbank (Calif.) branch of Lincoln Savings & Loan Assn. looking for a safe place to put her daughter's \$11,000 nest egg. The money was part of an insurance settlement from an accident that had left her daughter paralyzed. But Miller-Jacobs says the S&L pressured her to put the money into the thrift's high-yield bonds instead of a federally insured account. Now that American Continental Corp., the S&L's parent and issuer of the bonds, has declared bankruptcy, the securities are nearly worthless. And Miller-Jacobs is bitter. "Not one time did those folks tell me my funds were not secured," she says.

For Miller-Jacobs and 22,000 others, the only hope for recovering the \$250 million they invested through Lincoln is the Racketeer-Influenced & Corrupt Organizations Act, a statute that prosecutors love—but that business detests as legal overkill. The Lincoln bondholders have filed a RICO suit against the S&L, Chairman Charles H. Keating Jr., and the thrift's auditors and lawyers, charging that they conspired to sell the uninsured debentures as if they were federally insured certificates of deposit.

BACKLASH. Sounds like the kind of populist issue that Congress would love, right? Not exactly. Far from sympathizing with Miller-Jacobs, lawmakers are poised to pass legislation that would effectively bail out the Lincoln officials—who deny any wrongdoing—and nearly all other defendants in pending private RICO cases (table). The measure would weaken that part of the law that allows victims of fraud to recover triple damages. That prospect is the major incentive for bringing civil RICO cases, which law enforcement officials consider a critical deterrent to white-collar crime. Lawmakers also would curb such awards for pending litigation.

The proposal to defang RICO, which is being spearheaded by Senator Dennis DeConcini (D-Ariz.) and Representative Frederick C. Boucher (D-Va.), is the culmination of a five-year drive by business to overhaul the 1970 law. At first, business interests didn't view civil RICO cases as much of a threat. But now, run-of-the-mill fraud suits are being routinely transformed into RICO cases. The specter

of enormous damage awards and some well-publicized cases where the law has been stretched to extremes have produced a backlash.

One of the biggest beneficiaries of the legislation would be General Electric Co., which would no longer face the possibility of shelling out \$1 billion in triple damages in a suit brought by the Washington Public Power Supply System. Accounting firms and insurance companies also stand to gain protection. Under one

damages, but the procedural roadblock the bill erects make that all but impossible. The bill "is a Rube Goldberg machine," says Michael Waldman, legislative director of Congress Watch, a consumer group that opposes the bill.

DEAF EARS. But as the measure hurtles through the legislative process, criticism about its effects is falling on deaf ears. Miller-Jacobs asked to testify before the Senate Judiciary Committee in June, but DeConcini, who chaired the hearing, nixed the idea. DeConcini has close ties to Lincoln's Keating. Two years ago, he and four other senators met with federal regulators and pressed them to back off Lincoln, whose failure earlier this year could cost taxpayers \$1.5 billion. Record show that Keating and a close circle of friends and family contributed almost \$5 million to the five senators, including \$50,000 to DeConcini's 1988 campaign.



MILLER-JACOBS AND HER DAUGHTER MICHELLE: THEIR RICO SUIT CHARGES AN S&L WITH FRAUD

provision, government regulators who take over a failed thrift or insurance company no longer could sue such firms for triple damages on behalf of depositors or policyholders. Another section would let consumers recover punitive

MAJOR RICO CASES THREATENED BY REFORM

Washington Public Power Supply System vs. General Electric A \$1 billion suit brought by WPPSS against GE in 1986 over construction of a nuclear containment unit

Shields et al. vs. Keating A \$750 million class action filed in 1989 on behalf of bondholders at Lincoln Savings & Loan, one of the largest S&L failures ever

Greyhound Financial vs. Willyard A \$600 million suit Greyhound filed in 1985 against 20 defendants and three banks in an equipment-leasing deal

An embittered Miller-Jacobs complains that she was denied the chance to testify "because they're trying to knock off the law while no one's watching." An aide to DeConcini, who has backed RICO changes for five years, denies he charged, asserting that the senator wanted to limit testimony so he could move the bill quickly. The aide also says DeConcini's interest in RICO reform predates the filing of the suit against Keating. DeConcini couldn't be reached for comment.

Congress is expected to finish work on the legislation when it returns from the August recess. Lawmakers then will have to weigh their business supporters' anti-RICO sentiment against the saga of folks like Miller-Jacobs. The current betting is that business, sensing victory in a long crusade, will have the last word.

By Paula Dwyer in Washington

BUSH'S MAN ON THE STREET

Richard Breeden's political skills will be sorely tested at the SEC

Wall Street mavens were puzzled when President Bush ended a long search to replace outgoing Securities & Exchange Commission Chairman David S. Ruder by appointing White House aide Richard C. Breeden. A 39-year-old lawyer who has spent most of his career prowling Washington's corridors, Breeden lacks first-hand knowledge of financial markets. Ruder and [predecessor] John Shad were well known to the industry," says Iardwick Simmons, vice-chairman of Shearson Lehman Hutton Inc. "What do you know about Richard Breeden?"

Not much. But President Bush is betting that the political savvy that made Breeden a top White House trouble-shooter and point man on the savings and loan industry rescue will overcome the Street's initial skepticism.

ABLE MECHANIC. One thing's clear: By picking a loyalist like Breeden, Bush is signaling that he values political fealty over technical expertise. Bush would like to avoid a replay of the gaffes that dotted Ruder's reign. The former professor at Northwestern University, to which he's returning, was widely respected in the securities field. But he won the unyielding enmity of the Reagan White House during the October, 1987, market crash by spooking investors with musings about a trading halt.

But it would be wrong to dismiss Breeden's appointment as a reward for helping Bush in the 1988 campaign and out of the S&L mess. For one thing, Breeden is an able legislative mechanic, something that could come in handy in repairing relations with Congress that were damaged during the Shad era.

Breeden proved his legislative skill in the maneuvering over passage of the S&L bailout. Sensing that congressional Republicans were more inclined to gut the measure's tougher capital standards, Breeden spent much of his energy cutting deals to keep Democrats in line. The tactic proved successful, but coupled with Breeden's strong ego and sometimes abrasive manner, it irked some GOP leaders. "He negotiated away our position," grouches a senior GOP staffer.

Breeden won't be content to be the SEC's emissary to Capitol Hill, though. Rapid growth of a global securities market will force Breeden, once confirmed, to try to improve the workings of U.S.

markets and to repair relations with the SEC's sister agency, the Commodity Futures Trading Commission. He can also lead the effort to break down barriers to international capital flows.

Bush may well have chosen Breeden because of his views on financial deregulation. In 1984, while deputy counsel to then-Vice-President Bush, Breeden was the staff director of a task force that urged streamlining and consolidating the various agencies that oversee the financial services industry. But Breeden isn't about to pursue deregulation blindly. During the S&L debate, he successfully argued for stiff penalties for shady S&L operators and for scrubbing the Federal Home Loan Bank Board in favor of a new regulatory agency. Breeden's S&L experience "has shown him the limits of deregulation—and the dangers when it is accompanied by excessive laxity on the part of regulators," says A. A. Sommer Jr., a former SEC commissioner.



BREEDEN: AT AGE 39, HE PROVED HIMSELF ON THE HILL BY SHEPHERDING THE S&L BAILOUT

Breeden's precise views on just how tough a cop the SEC needs to be should soon be known. One of his first tasks will be to select a new enforcement director to succeed hard-charging Gary G. Lynch. Three Lynch deputies are angling for the plum job, but Breeden may prefer his own pick to oversee the agency's continuing insider-trading probe.

First, he'll have to dispel the notion that he's more attuned to the rhythms of Washington than of Wall Street. As Ruder found out, taking office two months before the market crashed, the SEC is not the place to practice on-the-job training.

By Tim Smart in Washington, with Jon Friedman in New York

DID HANSON HIDE BAD NEWS?

Angry shareholders are suing over the Smith Corona spinoff

Some debut. Hanson PLC on July 28 sold off 53% of Smith Corona Corp. after working a stellar turnaround. But two weeks later, the type-writer maker revealed soft sales would force layoffs of 10% of its workers.

The market exacted its revenge. The stock fell nearly 20% the next trading day. And on Aug. 15, three Smith Corona shareholders filed lawsuits charging that management knew well before the offering that operations were heading south—which the company denies. Smith Corona's announcement after the market had closed Friday "looked like an embarrassed company sneaking out from under a rock to drop a bombshell," says George H. Michaelis, president of First Pacific Advisors Inc., which bought in the initial offering. Complains G. Kenneth Heebner, a star money manager at Loomis, Sayles & Co.: "They took me for a ride." He's dumped the stock.

VINDICATION? Hanson may pay dearly. It planned to spin off other holdings as it had Smith Corona, says a source close to the deal. Among the possibilities: pieces of Consolidated Gold Fields PLC, which Hanson bought in July for \$5.5 billion. Now, investors aren't in the mood. "It's going to be hard for them to do the next deal," Heebner says. Hanson wouldn't comment, citing the lawsuits. But one official says privately that Smith Corona's performance will vindicate them.

It's no wonder that investors were watching Smith Corona and Hanson closely. Hanson's return on the 1986 purchase of SCM Corp. has been nothing short of spectacular. By selling SCM's Glidden Paints, food companies, and a paper mill, Hanson made back its \$930 million investment in a year. What was left turned out to be a windfall. The company turned a \$42 million loss in 1986 into a \$42 million profit in fiscal 1989. Sales climbed 25%, to \$493.1 million, with operating margins that edged up a bit to 18% in fiscal 1989. Chairman G. Lee Thompson said that with 1989 results and the 1990 product line, he was "looking forward to an exciting future."

He spoke too soon. Smith Corona pumped up production in the fiscal fourth quarter to boost inventories. Demand for consumer durables softened in July, and the company found itself with too much product and staff. The July 28 prospectus bore no warning. But Thom-

son maintains that he discovered the bloated stocks only during a month-end meeting. Over half the 450 employees released were temporaries anyway, he says. But one person close to the deal observes: "They couldn't predict their way out of a paper bag."

Smith Corona still could turn in strong results for the next fiscal year. Jeffrey Putterman, analyst at Drexel Burnham

Lambert Inc., sticks by his earnings forecast of \$2.20 a share in 1990, a 22% increase. And it's Hanson—which, after all, is the one that pocketed \$750 million at the public's expense—that has the black eye. But if Smith Corona doesn't meet Wall Street's great expectations, it too might start looking battered.

By Todd Vogel and Christopher Tucher in Stamford, Conn.

STRATEGIES

THEY'RE MORE SINGLE-MINDED AT TAMBRANDS

Failed diversification and takeover rumors are sending it back to basics

Tambrands Inc. has been striving for most of the 1980s to be more than a one-product company. But the maker of Tampax tampons has made barely a dent in the sanitary pad market with its eight-year-old Maxithins brand. And its big leap into home diagnostics and cosmetics has been a failure, producing little more than a stream of operating losses and management distraction that has hurt its basic tampon business.

\$44.2 million, on a 4.7% increase in sales, to \$296 million.

The pressure to improve financial results may be especially urgent in the wake of recent takeover talk. In the second week of August, Tambrands stock shot up more than 11 points, to around 73, on a rumor that Johnson & Johnson was prowling and a report that Centaur Partners had acquired a 3% stake. The Bethesda (Md.) investment group in

gan Stanley & Co. analyst Brenda Le Landry expects it to lose \$6.5 million this year on a meager \$12 million in sale (charts). "There was no reason for them to be in those businesses," says Andrew Shore, cosmetics analyst for Shearson Lehman Hutton Inc.

The failure of that diversification contributed to the sudden departure last February of former Chairman Edwin L. Shutt Jr. and the naming of Emmett two months later. The native South Africa came to the company from the investment bank Security Pacific Burns Fry in New York, where he did financial consulting for Tambrands.

MAKING A MARK. He has plenty of consumer products experience, though, having held senior positions at Standard Brands Inc. before and after its 1981 merger with Nabisco Inc. Associates describe Emmett as a good strategic thinker. A former colleague at Nabisco says "Marty's one of those people who can be witty and easygoing at a party but ruthless and hard-nosed in the boardroom."

Emmett has begun to make his mark. In June, the board approved a plan to buy back 5% of the 22.4 million shares outstanding for stock option and benefit programs. The repurchased shares will be used as incentives for management, which now owns less than 2% of the stock. Nabisco sources say Emmett may soon install at least one new top manager from his former company.

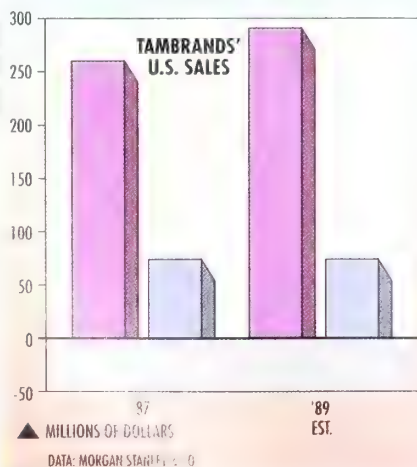
On the marketing side, Emmett has instigated a review of Tambrands' three advertising agencies with a mind toward consolidating the \$15 million account. "Having both pads and tampons in one agency will allow them to work for a total category strategy," says John J. Dooner Jr., president of McCann-Erickson North America, whose international arm handles Tampax in 12 countries.

Analysts say Tambrands should have an easier time expanding overseas than domestically. As the undisputed leader in the mature \$600 million retail U.S. tampon market, Tambrands doesn't have much room to grow. To make matters worse, its unit share slipped to 57.1% in the 1989 first half from 58.4% over the comparable 1988 period. One reason Playtex Inc. beat it to market last fall with a pocket-size tampon using an applicator that collapses like a telescope. Playtex Chairman Joel E. Smilow expects Tambrands to launch a similar product it now sells in Canada.

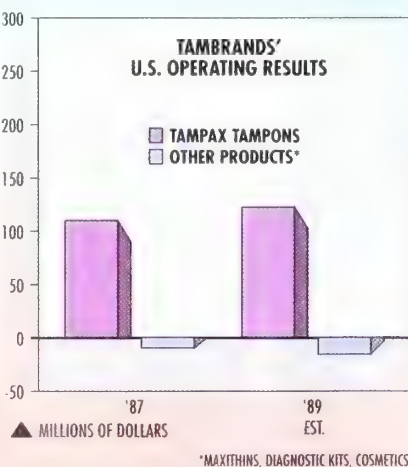
Emmett always has the option of getting the Tambrands house in order, then selling out. Indeed, the irony in all the recent takeover speculation is that Tambrands looks most attractive as a one-product company after all.

By Amy Dunkin in New York

TAMBRANDS: SLOW DIVERSIFICATION...



...WITHOUT A PAYOFF



Now, under new Chairman Martin F.C. Emmett, Tambrands is returning to its roots. Emmett aims to market the Lake Success (N.Y.) company's feminine hygiene products more aggressively in the U.S. and overseas, particularly in Europe. Emmett has \$85 million in cash and equivalents and a debt-free balance sheet to work with. Ultimately, he hopes to use those assets to generate stronger and steadier earnings. Although 1989 second-quarter net income was up 7%, to \$26 million, first-half profits fell 2.4%, to

March made at least \$50 million on an unsuccessful bid for Pennwalt Corp.

To help refocus the company, Emmett has decided to sell Physicians Formula Cosmetics Inc.'s hypo-allergenic product line, purchased for \$8 million in December, 1985, and the First Response business, which sells pregnancy and ovulation home tests. Tambrands paid \$47.8 million in February, 1987, for Hygeia Sciences Inc., which manufactures the First Response kits. Yet the line never made money for Tambrands, and Mor-

THE QUAYLE FAMILY NEWSPAPERS: BLACK, WHITE—AND GREEN ALL OVER

public offering could value the company at around \$500 million

Eugene C. Pulliam considered himself a political crusader when he founded Central Newspapers Inc. in 1934. The son of an itinerant minister—and grandfather of Vice-President Dan Quayle—Pulliam used his largest newspaper, *The Arizona Republic*, to help launch Barry Goldwater's political career. In 1968, Pulliam tried to block Robert F. Kennedy's bid for the White House by ordering his Indianapolis papers to play down their coverage of the New York senator's campaign during the crucial Indiana primary. "I've never been interested in the money I can make," he once boasted, "but in the influence we have."

Pulliam died in 1975, and his descendants clearly don't share his thinking on money: They've decided to take the company public. On Aug. 10, Central Newspapers registered with the Securities & Exchange Commission to sell 3.6 million shares of its Class A common stock, or roughly 16% of the total. The filing values the company at \$500 million to \$530 million. That's a sizable fortune, but it's not quite as big as some had thought. Last year, bankers, in a scuttled public offering, valued the chain at between \$600 million and \$700 million. Its seven papers have a combined daily circulation of 847,603.

IT RETURNS. For now, bargain hunters won't be tempted at the likely price, \$17 to \$20 a share. That represents multiples of six or seven times the company's cash flow, typical for newspaper stocks. Buyers also shouldn't expect the stock sale to lead to a takeover. The Pulliam family trust owns 68.8% of the Class B voting stock, which gives them 75% of the company's total votes.

The financial statements imply that Vice-President Quayle can look forward to some handsome stock dividends. Quayle and his wife, Marilyn, hold a total of 1,800 Class A shares and 4 Class B shares. They will collect about \$9,000 this year from those shares. The Quayles can start collecting additional dividends from stock that belongs to the family trust after the death

of the Vice-President's step-grandmother and his 67-year-old mother, Corinne Pulliam Quayle. That check would amount to about \$62,039 a year at the current payout rate. The Second Family could make between \$472,810 and \$556,248 by unloading their stock, but a spokesman says they're not selling.



WAY BACK WHEN: FOUNDER EUGENE C. PULLIAM WITH INDIANA GOVERNOR HANDLEY AND VICE-PRESIDENT NIXON

Quayle makes \$115,000 for his work as Vice-President.

Some shareholders contend that the company is worth far more than the offering document suggests. "The price apparently bears no relation to the market value," says Beurt R. SerVaas, president of Curtis Publishing Co. in Indianapolis. He bought 26,200 Class A

shares from Dan Quayle's cousin, Margaret Pulliam Goldsmith, in 1987.

SerVaas points to a \$1.5 billion offer—rumored to have come from Gannett Co.—that was brought to the company last year by investment banker Hylton M. Philipson of Henry Ansbacher Inc. The family trustees rejected the bid. Explains Eugene S. Pulliam, the 74-year-old son of the company founder and one of the trust's three custodians: "We simply told them that under the terms of the trust, we can't sell control of these newspapers." Philipson then sent investors a letter saying the company should examine every option—including possibly challenging the trust in court.

BUSTED TRUST? SerVaas says the trust could be busted. That's what happened in the highly publicized feud among the Bingham clan of Louisville, which resulted in the sale of the family's newspapers. "What lawyers can put together, lawyers can take apart," says SerVaas. But the Pulliam heirs like the terms of the trust. And key institutional shareholders—Franklin College and DePauw University—won't do anything that would alienate the company, which still helps support the schools.

Many family members want to unload some of their shares, though. The Vice-President's mother and his aunt, Suzanne Pulliam Murphy, plan to sell 113,453 of the 1.47 million Class A shares they control. Quayle's two brothers, his sister, and a sister-in-law intend to sell more than half of their combined 65,800 Class A shares. Pulliam insists there's no family feud. "They just needed some money," he says.

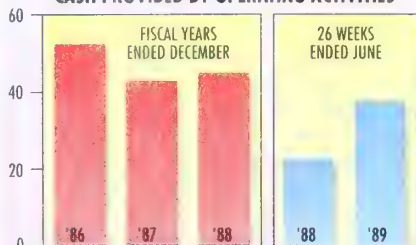
This is a good time to sell. Media stocks are up 24% since the beginning of the year, in part because of Time Inc.'s merger with Warner Communications Inc. And Central's performance has improved. The company's net rose 28.5% in the first half of 1989, compared with the same period last year. Cash flow from operations also grew nearly 65% (charts).

Some Pulliam clan members wish they could keep such details under wraps. "Having lived with a private company all my life, I'm not all that happy about everybody knowing all our figures," Eugene Pulliam admits. But that's what happens when a family with so much influence in the news business makes its own business news.

By Julia Flynn Siler in Indianapolis, with Richard Flynn in Washington

CENTRAL NEWSPAPERS' CASH FLOW IS BACK UP

CASH PROVIDED BY OPERATING ACTIVITIES



▲ MILLIONS OF DOLLARS

DATA: COMPANY REPORTS



QUAYLE ISN'T SELLING

SOMETIMES IT DOESN'T PAY TO KEEP A SECRET

CA won't spell out its plans for Cullinet—and that's hurting sales



TONY AND CHARLES WANG: CUSTOMERS WON'T BUY ASSURANCES OF SUPPORT

These days, Jerry Peters is a nervous man. As director of information services at Exchange National Bank of Chicago, he sank \$3 million into new banking software sold by Cullinet Software Inc. In fact, his operation was the first in the country to use the technology. Now, Peters is afraid it may also be the last. That's because Computer Associates International Inc., which is buying Cullinet for about \$260 million in stock, won't say if it will keep making the software once the deal is completed.

Cullinet customers aren't the only folks with reason to worry. The uncertainty means buyers are holding back—and that's hitting CA's bottom line. Fueled by a massive buying binge, Garden

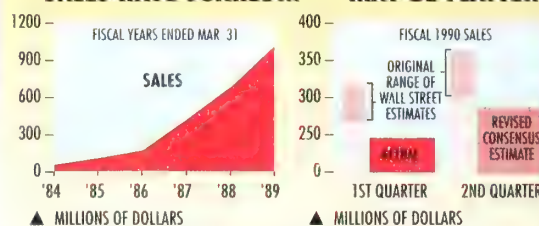
City (N. Y.)-based CA has grown from revenues of \$84.7 million in 1984 to more than \$1 billion in its 1989 fiscal year ended on Mar. 31 (charts). That makes it the largest software company in the industry. Profits have soared from \$9.5 million to \$163.5 million in the same period.

BRIGHT SIDE. But CA's climb may be slowing under the accumulated weight of its acquisitions. The company ended its first quarter with sales of \$244 million, about \$30 million less than analysts expected. Then, on Aug. 9, it warned Wall Street that second-quarter revenues could fall short of its \$325 million forecast. Most analysts figure CA will

post about \$290 million in sales vs. last year's \$224 million. Some have estimated as low as \$250 million. While first-quarter earnings held up, second-quarter profits are still in doubt, as CA absorbed unprofitable Cullinet. CA's stock has paid the price, falling to 15½ on Aug. 10 from its 52-week high of 21 on June 19.

The Cullinet acquisition, announced June 19, was supposed to have been locked up by now. Because the Securities & Exchange Commission was slow to sign off, the deal won't be finished until mid-September. Until then, CA refuses to detail how it will integrate Cullinet's software into its product line, which includes competing offerings. Chairman Charles B. Wang will say, "We have told [Cullinet] users we will continue to support and enhance our products." Evidently that's not enough. Both Cullinet and CA customers are postponing purchases. New license revenue

COMPUTER ASSOCIATES' SALES HAVE SOARED... BUT THE FUTURE MAY BE FLATTER



for CA's Dacom/DB software, for instance, were down \$10 million in the first quarter.

CA's problems aren't limited to concerns over the Cullinet deal. Current translation knocked first-quarter sales down by about \$15 million. And Wang admits business was hurt by a spring reorganization of CA's sales force, which had some employees trying to sell products about which they knew little.

Wang is used to criticism of his prodigious dealmaking—and he's not about to stop. Since 1982, the company has a

SOFTWARE: IN FOR A PATENT POUNDING?

Since the U.S. Patent & Trademark Office started granting patents to protect software in 1981, experts have braced for a wave of infringement lawsuits. Now, the floodgates may be opening. Lotus Development Corp. and five other software makers have been slapped with one of the first such suits. And it could

force them to take patents more seriously. Says Daniel S. Bricklin, a leading software developer: "The case is showing that there may be a time bomb in the industry."

New York licensing company REFAC International Ltd.—whose main business is to buy patents and file suits—wants the defendants to pay 5% royalties, totaling between \$25 million and \$250 million a year. The company also is seeking royalties for the six years the patent has been in effect and payments until it expires in the year 2000. REFAC acquired the disputed spread-

sheet patent in July from Forward Reference Systems Ltd. of Canada, who would share the royalties.

The defendants—including Ashton-Tate, Microsoft, Computer Associates International, Borland, and Informatica—dismiss the claims. They have until mid-September to file formal responses in New York federal court. But in the meantime, the software industry is already rethinking how it protects its products. Although software falls under patent and copyright law, the industry has been slow to use patents, which are harder to get. They offer a vi-

sorbed 22 companies or product lines. CA even maintains a SWAT team charged with finding candidates and rapidly closing deals. Wang and his older brother, Tony, CA's president, make the final decisions. Sometimes the process takes less than a week. "They don't horse around," says Charles Federman, a partner at investment bank Broadview Associates in Fort Lee, N.J.

M&A types may love it, but CA's strategy has won it some enemies. CA buys companies for their products, not for their management or marketing expertise. So it quickly slashes much of the acquired company's work force. "Their scorched-earth policy leaves a bad taste in the mouths of employees who have been laid off," says Stephen T. McClellan, an analyst at Merrill Lynch & Co. Such tactics have made some acquisition candidates balk. Last year, Atlanta-based Management Science America Inc. rejected CA. "I like Charles," says MSA Chairman John P. Imlay, "but I don't always agree with what he's doing."

HARD SELL. CA's single-minded focus on deals can divert attention from customers. Software buyers have long complained that CA doesn't provide enough support to customers of an acquired company's products. Wang responded this year by moving 200 technicians into the field to provide postsales help.

Now, CA has come under fire for being too zealous and pressuring customers to buy before they're ready. "I call it their used-car salesmanship," says Lois Pollock, manager of information resources at Warner Electric Brake & Clutch Co. in South Beloit, Ill. "They come in with a big deal and give you five minutes to decide if you want it. [Others] are aggressive, but they don't offer those kind of blue-light specials."

CA has to be aggressive to deliver on plans for 30% revenue growth per quarter. The buying binge helped in the past. But with an overloaded product line and revenues under pressure, CA might be better off if it slowed the dealmaking and focused on what it has already got.

By Deidre A. Depke in New York

opoly for 17 years, but copyrights give entrepreneurs more freedom to build off patented technology. The contretemps may eventually lead to legislation. Rochelle Dreyfuss, a professor at New York University's law school, says lawmakers solved "the last big problem," over computer-chip technology, by passing a law that provided protection and still encouraged innovation. "A lot of people think that's what Congress should do to protect computer software," she says. Then, software makers might just be spending more time in court.

By Michele Galen in New York

AUTOS



LINED-UP LUMINAS: GM MAY HAVE TO OFFER INCENTIVES TO GET THE NEW SEDAN MOVING

THE LUMINA HAS ITS BRIGHTS OFF

But GM still thinks the midsize Chevy will fuel future growth

In TV ads last spring for the Chevrolet Lumina, Dumbo demonstrated the size of the trunk, while Cinderella's fairy godmother magically turned a Corvette into the family sedan. In launching the Lumina, General Motors Corp. hoped a little Disney magic would send the car racing up the sales charts. But four months later, the Lumina is stuck in low gear, and analysts expect GM to slap incentives on it soon.

For most cars, a slow start in the currently soft market wouldn't be remarkable. After all, new-car sales through July 30 this year have dropped by 6.4% from a year ago. And through Aug. 10, GM's sales were even softer, down 9%. What's more, GM has seen other slow starters take off:

The Corsica and Beretta models spun their wheels for months but now are the best-selling cars in the industry. Even the Lumina is beginning to attract buyers. "It's starting to pick up now," reports John J. Gentile, new-car sales manager at Lattof Chevrolet Inc. in Arlington Heights, Ill.

It had better, for the Lumina isn't just any car. Targeted directly at important rivals such as the Ford Taurus in the crucial midsize market, it replaces both the Monte Carlo and the Celebrity, a longtime favorite among fleet buyers. In addition, sales have stalled for GM's newly redesigned midsize coupes: the Pontiac Grand Prix, Buick Regal, and Oldsmobile

mobile Cutlass Supreme. GM admits that customers are shunning those two-door models in favor of four-doors, and the Lumina is GM's only all-new four-door.

Moreover, the Lumina is important to GM's overall goals. Executive Vice-President Lloyd E. Reuss says GM is aiming for 37% of the passenger-car market next year. That would be up from 35.5% so far this year and would be GM's peak since 1986 (chart). He also predicts that GM will add another point of share in the light-truck market, thanks largely to a new Chevy minivan, the Lumina APV—all-purpose vehicle. "Investors are going to watch Lumina sales like hawks," says Morgan Stanley & Co. auto analyst Scott F. Merlis. "This is GM's most important shot at regaining market share."

UNDERPOWERED? But so far, the Lumina is no world-beater. Sales to date tally only 38,449, even though Chevy had 20,000 fleet orders in hand before the official launch. Stocks stood at 82 days' supply on July 31, vs. a GM average of 72 days', says *Ward's Automotive Reports*. Dealers say consumers are put off by the standard four-

cylinder engine. Then there's price: Lumina's \$11,883 base sticker climbs to \$13,776 for a six-cylinder Euro model. Celebrity leftovers have a base price of \$11,495, minus a \$500 rebate.

GM can't wait much longer for Lumina to light up. It's now selling about 13,000 to 14,000 cars monthly and is preparing to build from 25,000 to 30,000 a month, notes Christopher W. Cedergren, senior auto analyst at J. D. Power & Associates in Agoura Hills, Calif. His conclusion: "Chevy's going to have to offer some kind of incentives on that car to get it moving." In Motown these days, that seems to be the only magic that works.

By James B. Treece in Detroit

GM: GLOOM IN CARS, PROMISE IN TRUCKS

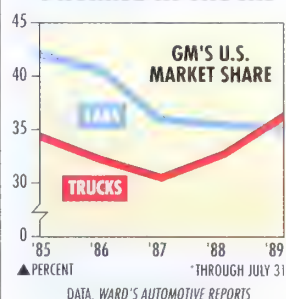
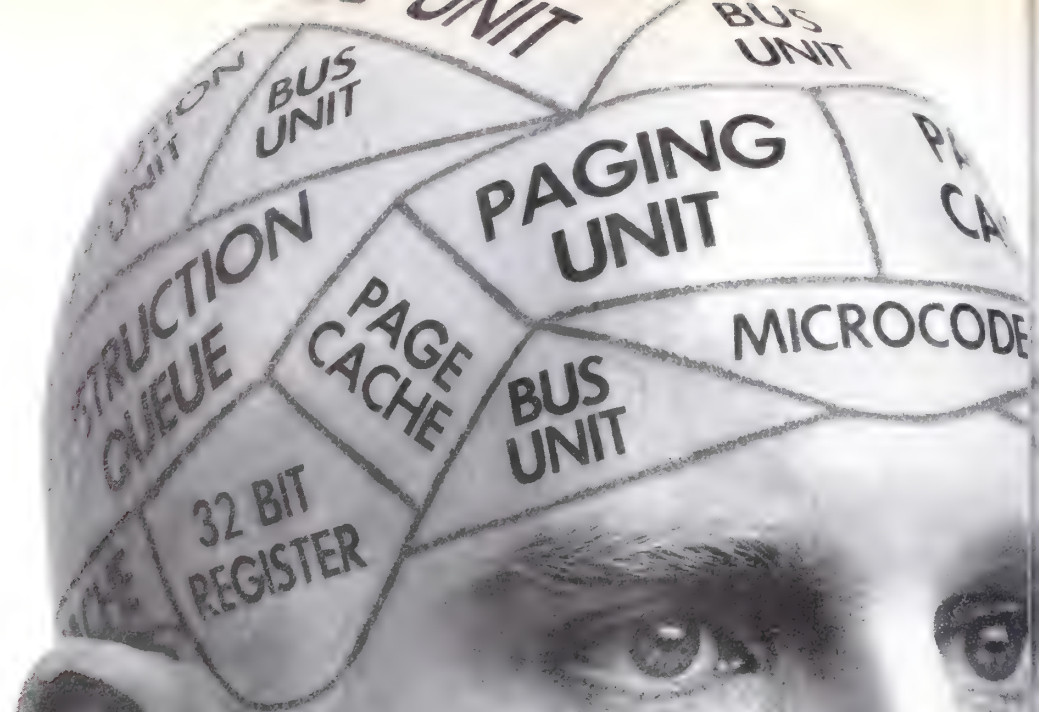


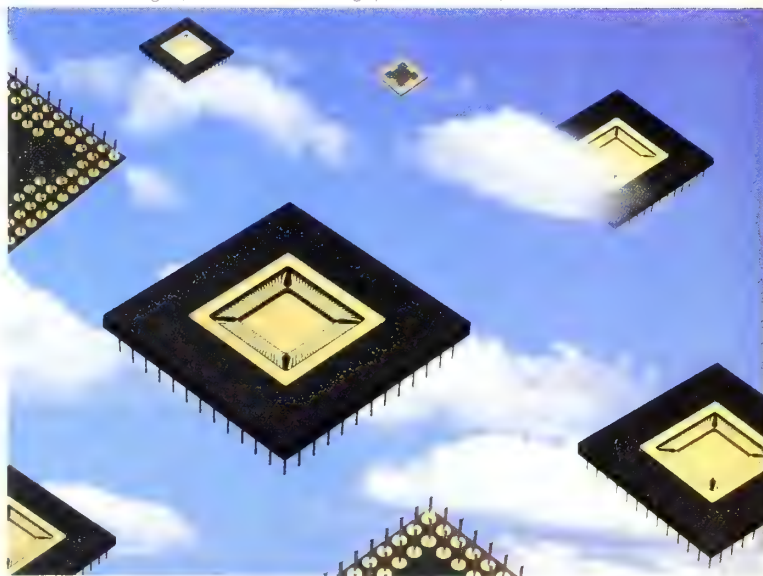
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Daewoo's wide range of innovation includes highly advanced computers



DAEWOO

THAT'S WHO!

VICTOR POSNER AND THE CASE OF THE MYSTERY FINANCIER

The plan to sell Fischbach to an English investor is falling apart

Fischbach Corp. has lost no less than \$106 million since Miami Beach financier Victor Posner took control in 1985. So the giant electrical contractor seemed to be closing a nightmarish chapter last month when Posner agreed to sell his stake. But the nightmare goes on—and it's taking some startlingly mysterious turns as Posner's deal to sell out dissolves and Fischbach investors see the value of their holdings shrink.

It's an intriguing tale, and not just for the fellow who stands at its center, a purported British investor and dairy farmer by the name of Asher DeVere. There's also a Miami Beach insurance broker and real estate developer named Mel Harris, plus his cousin, Maurice R. Greenberg. "Hank" Greenberg heads American International Group Inc., the nation's largest investor-owned insurer and Fischbach's bonding company. It's AIG that seems key to Fischbach's fate.

Last month, however, it looked as if DeVere's deal for Fischbach was solid. That's when Posner's APL Corp. announced it would sell its 53% of Fischbach to a group headed by DeVere for \$29.835 a share, or \$117 million. But because DeVere is unknown on Wall Street, and since he didn't make himself available for interviews, questions arose.

Especially troubling, none of his business interests listed by a spokeswoman, Bambi Levine, checked out. For instance, Levine claims DeVere has owned an English dairy farm, Clovertop Farms. No such farm seems to exist. She says DeVere is behind many inventions, from computers to machinery for making rice cakes, but offers no specifics. Levine could not explain why DeVere's business ties could not be confirmed, but promises more details in the future.

NO COMMENT. Questions about DeVere and the money behind him intensified in mid-August, when two top officials of the London-based merchant bank Hill Samuel & Co., which DeVere said was his backer, told BUSINESS WEEK they'd never heard of him. Nor, Hill Samuel added, does it have any role in funding a takeover of Fischbach.

Posner wouldn't comment on Aug. 15, when BUSINESS WEEK inquired about DeVere's supposed link to Hill Samuel. But the next morning, trading in Fischbach shares on the New York Stock Ex-

change was halted. And that afternoon, Fischbach disclosed that DeVere's group in fact has no financing. By day's end, Fischbach shares had sunk 6¼, to 18¼.

Did Posner get snookered? "We believe the DeVere group offer was serious," says Posner spokeswoman Renee Mottram-Doss. One reason: A copy that Posner received of a June 21 letter on Hill Samuel stationery. It stated that the bank would arrange for up to \$280 million for DeVere. Hill Samuel says the firm authorized no such letter.

DeVere's New York attorney, Howard Squadron, claims his client is arranging new financing, and the deal is still on—despite the widespread Wall Street rumor that DeVere is the product of some-



DEALMAKER POSNER: WAS HE SNOOKERED?

one's imagination. Five Fischbach directors, not aligned with Posner, also had doubts. They voted on Aug. 8 to turn down the deal. Not surprisingly, Posner is said to be dismayed. "No one's ever pulled this before on Victor," says an insider. "Now he has egg on his face."

HANDSOME FEE. And, perhaps, a bone to pick with Mel Harris, the insurance broker who stood to collect a \$645,000 finder's fee in the deal. Mottram-Doss says it was Harris' association with AIG that lent credibility to his introduction of DeVere's group. A friend of the Posner family who went to high school with Posner's son Steven, Harris had helped Fischbach before. Back in 1985, a unit of Chubb Corp. threatened to cancel the performance bonds it had issued on Fischbach's construction projects. Without an underwriter, Fischbach would be out of business, and it had just 90 days to replace over \$500 million in bonds.

Harris persuaded AIG, run by his cousin Hank Greenberg, to bond Fischbach. In return, Harris took an annual \$200,000 broker's fee. Greenberg did not return several calls for comment. But Harris insists: "I don't get treated at AIG any differently than anyone else." He adds that AIG wouldn't issue bonds if it weren't willing to assume the risk.

Yet as Fischbach's finances deteriorated under Posner's control, AIG is said to have grown restive with that risk. "A lot of times AIG wanted to get out, but Mel kept them in line," says an insider. Adds a Fischbach director: "I wouldn't be surprised if AIG encouraged or promoted the [DeVere] deal, and Mel Harris found them." Notes Hugh L. Rice, senior vice president of Fails Management Institute, a Denver-based industry consultant: "AIG does hold the purse strings."

For Posner, Fischbach has been pure trouble. The Securities & Exchange Commission in September charged Posner and his son with securities violations designed to help them void a 1988 standstill pact that barred Posner from taking over Fischbach. The SEC alleged that the Posners joined in the scheme with jailed arb Ivan F. Boesky, who pleaded guilty to making false disclosures about his Fischbach trading. The Posners have denied any wrongdoing.

Bad as Fischbach has been for Posner, this is only the latest kick in the pants for its minority shareholders. It may not be the last. Fischbach's "prospects are excellent," Rice notes. "With as much momentum and experience as they have, if they can get past this, they could get back to doing business." If they can, says a Fischbach director, "I'm not sure there is a future for Fischbach."

By Gail DeGeorge in Miami and Richard A. Melcher in London



THE BMW 525i IS SLOWER, LESS ROOMY AND COSTS \$10,000 MORE. MAYBE IT'S THE NEW MATH.

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designers that the Volvo provides more front headroom and rear legroom. With standard amenities such as heated seats, air conditioning and a power sunroof, the Volvo interior is designed to make your driving experience more pleasurable.

And it didn't come as a surprise to Volvo enthusiasts that the 740 GLE 16-valve comes equipped with safety features such as a driver's side Supplemental Restraint System (unlike the BMW) and an anti-lock braking system (just like the BMW).

What everyone agreed was bizarre, however, was the fact that the BMW costs an alarming \$10,000 more.†

Test drive the new 740 GLE 16-valve. Because a Volvo, unlike many of today's sticker prices, makes all **VOLVO** the sense in the world. A car you can believe in.

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EDITED BY WENDY ZELLNER

SONY LEAPS INTO THE CHIP VANGUARD

► Japan's latest move on the technological pillars of the U.S. semiconductor industry comes from an unlikely source: Sony, which is acquiring Materials Research. MR's revenues may be small—\$135 million—but the Orangeburg (N.Y.) company is a leading supplier of equipment that is vital for making chips. On Aug. 15, MR agreed to endorse Sony's \$60 million offer.

America's last two major producers of silicon, the raw material for chips, have also been picked up by overseas companies. And last spring, Perkin-Elmer, long the world's leading supplier of chipmaking equipment, put those operations on the block. Such takeovers make the U.S. industry's attempts to stay in the semiconductor game all the more difficult.

A PAPERLESS TRAIL FOR CHICAGO TRADERS

► Another tradition is about to bite the dust—and some would argue that it's none too soon. In an effort to replace the pencils and trading cards used for nearly 150 years in Chicago's commodities pits, the Chicago Board of Trade and the Chicago Mercantile Exchange are spending \$2.5 million each to jointly develop hand-held computerized trade recorders. They'll help eliminate potential abuse by creating an accurate trail of all trading activity. Traders have long fought such technology—but a recent wave of indictments for trading improprieties opened the door.

INTEGRATED GETS LESS SO

► It's back to basics at hapless Integrated Resources. On Aug. 15, the cash-strapped Manhattan-based company said its asset values had

plunged from \$1.8 billion to \$1.2 billion. But it has nearly \$2 billion in debt. Integrated is asking lenders, who have balked at debt-restructuring efforts in the past, to approve a plan that would slash creditors' payouts by at least a third and give common stockholders almost nothing.

The money would come from selling the ventures that got Integrated into trouble in the first place—life insurance, financial services, and mutual funds. That would leave just its anemic original business, real estate limited partnerships, which were hurt by tax reform. Integrated defaulted on short-term debt in June and posted a \$600 million second-quarter loss.

ASHTON-TATE HITS dBASEMENT

► For Ashton-Tate, the news just seems to get worse. The software maker said on Aug. 15 that sluggish sales of its bug-ridden dBase IV product will force the Torrance (Calif.) company to cut 20% of its 1,700 workers. What's more, an upgrade of dBase won't be ready to ship this fall as planned. Ashton-Tate now expects to lose as much as \$20 million in its third quarter, ending on Sept. 30. The grim news comes on the heels of its first loss ever, \$19.8 million on sales of \$59.5 million, in the previous quarter.

THIS COMIC BOOK IS REALLY THE PITS

Look! It's a bidder! It's a seller! No, it's Sally LaSalle!

With a crack, a grrr, an ugh, and an ouch, Sally LaSalle has hit the streets in front of Chicago's futures exchanges. She's the fanciful comic-book byproduct of the federal government's two-year undercover investigation of trading on the Chicago Mercantile Exchange and Chicago Board of Trade.

Chicago Follies, a \$3.95 comic published by Chicago Fine Print and written by local comedy writer Len Strazewski, details how neophyte trader LaSalle unwittingly draws the eye of undercover FBI agents, thanks to the sinister Larry "The Lizard" Halsted. Will Sally's mentor, Mr. Ono, save her? Tune in next issue.

And what about the exchanges' reaction? Perhaps Sally says it best, as government agents haul her off to jail in volume one's exciting conclusion: "Oh, God, no!"



To avoid future surprises, Chairman Edward Esber is taking development of the next release of dBase IV into his own hands. He'll also take on recently departed President Luther Nussbaum's responsibilities.

ARCO GETS THE LEAD OUT

► Under pressure from clean-air proponents, Atlantic Richfield will replace its leaded gasoline in California with a new fuel that will reduce toxic emissions from vehicles by 20% or more. Initially, Arco is targeting 1.2 million older

cars and trucks in the Los Angeles basin, where state authorities have approved plans to force greater use of other cleaner-burning fuels such as methanol. Arco's new fuels cuts emissions of carbon monoxide and other compounds that react with sunlight to form smog. Rival oil companies are expected to roll out similar fuels in an effort to hang on to their market shares as Congress moves toward enacting tougher clean-air standards.

MERV GRIFFIN ASKS FOR A REDEAL

► You can't fault Merv Griffin for a lack of optimism. In mid-July, Griffin's Resorts International filed plans to build a \$227 million hotel-casino along Atlantic City's boardwalk. Less than a month later, the casino company told Griffin bought last year considering a massive debt restructuring.

After losing \$46.6 million for the first half of the year, Griffin told investors he plans to submit a "revised business plan" by Sept. 19. That would include refinancing of much as \$925 million. Bondholders are considering legal action.



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GENERAL DYNAMICS
A Strong Company For A Strong Country

TRADE HAWK GEPHARDT PULLS IN HIS CLAWS—A BIT

In 1988, he won notoriety—and a fleeting shot at the Democratic Presidential nomination—as a fire-breathing advocate of protectionism. But this year, Representative Richard A. Gephardt is trying a different approach to the U.S. trade deficit. Soon after the congressional recess, the Missouri Democrat will unveil trade legislation to prod the Bush Administration into a more aggressive export-promotion drive.

The '89-model Gephardt is still convinced that, properly framed, economic nationalism can be a potent lure to the blue-collar workers who have been deserting the Democrats. But now that he has become Majority Leader, the party's No. 2 House post, Gephardt is muting his former "big-stick" approach. The failed Gephardt amendment, which threatened retaliation against Japan and other countries that ran chronic trade surpluses with the U.S., has been replaced with a more sophisticated approach. He now wants to open new markets for U.S. exports.

Gephardt's bill is an amalgam of some familiar trade remedies. It would venture further into industrial policy by providing government funds for favored high-technology joint ventures. The model is the Defense Advanced Research Projects Agency (DARPA), which funnels Pentagon money to semiconductor research. The legislation also would boost government export financing and establish a Commerce Dept. "rapid deployment force" of trade experts to help U.S. exporters compete in newly opened overseas markets.

POLITICAL OPPORTUNITY. Trade warrior Gephardt hasn't totally allowed. He plans to include in his package increased disclosure requirements for foreign investors. With the trade deficit likely to worsen and the public uneasy over the sale of American assets to foreigners, Gephardt sees a political opportunity. "He is offering a way for the Democrats to gain some traction on basic economic issues and demonstrate a willingness to stand up for America," says Democratic pollster Geoffrey Garin.



DICK GEPHARDT

But Gephardt's new trade strategy still faces obstacles, mainly the risk of a clash with House Speaker Thomas S. Foley (D-Wash.). An ardent free-trader, Foley disagreed with Gephardt's earlier attempt to block Japan's participation in development of the FSX fighter plane. Gephardt, who pushed for the measure in the House only to see it die in the Senate, lashed FSX advocates "for giving away our best technology and our best jobs."

Foley has good reason to be uneasy about the young Missourian. The Speaker, 60, is by nature a quiet, low-keyed leader. Gephardt, 48, is more intense, partisan, and ambitious. For instance, Foley thought Gephardt was on board when the Speaker announced leadership opposition to a cut in capital-gains taxes. He wasn't thrilled when Gephardt, sensing growing rank-and-file support for such a cut, announced he would devise his own version.

JAPAN FAN. "There is a vacuum at the top of the party, and Gephardt is stepping into it quite bravely," says William Schneider of the American Enterprise Institute. And despite disclaimers to the contrary, a number of party pros think Gephardt's footsteps are heading for the Iowa caucuses again—not in 1992, but perhaps later. Larry J. Sabato, a University of Virginia political scientist, notes Gephardt's penchant for the bold stroke: "[He's] a Presidential candidate in gestation."

Although Gephardt has been rapped for political opportunism, there is a certain constancy about his continued interest in trade and Japan. He has become a devoted student of Japanese culture, visits the country often, and is struggling to learn the language. But beneath the new polish, Gephardt remains the quintessential trade hawk. "There is a fine line between being tough on trade and being a protectionist," he says. "To get [Japan to] open markets, you may have to threaten—and even resort to the same actions that you are complaining about."

By Paul Magnusson and Douglas Harbrecht

CAPITAL WRAPUP

POLITICS

Look for the Republicans to gain a seat in the special elections to fill five House vacancies. The one likely to change hands: the Miami congressional district long held by the late Claude Pepper (D-Fla.). Democratic campaign strategists concede that GOP candidate Jeanne Ros-Lehtinen is ahead in this heavily Cuban-American district. Republicans hope they can eke out a victory to hold the Gulf Coast seat of freshman Larkin Smith (R-Miss.), who was killed in a recent plane crash. But Democrat Pete Geren is favored to win the seat of former House Speaker Jim Wright (D-Tex.), Democratic state As-

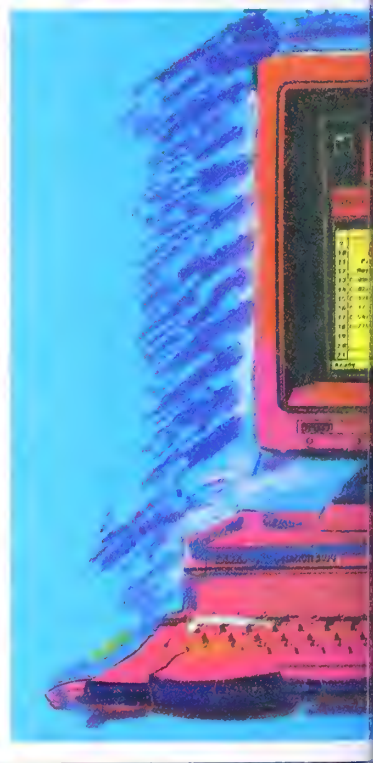
semblyman Gary Condit is expected to succeed former Majority Whip Tony Coelho (D-Calif.), and the GOP might not field a candidate to succeed Mickey Leland (D-Tex.), who was also killed in a plane crash.

TRANSPORTATION

Transportation Secretary Samuel K. Skinner is trying to line up White House support in his drive to stop leveraged buyouts in the airline industry. His staff is working on a memo to White House Chief of Staff John H. Sununu, alerting him to the dangers of LBOs. "We intend to send a signal about LBOs," says one senior Transportation official.

CHILD CARE

For years, business groups have bitterly opposed Democratic proposals that would require companies to give workers unpaid leave if they become sick or have to care for sick relatives or newborns. But their position is softening. Privately, business lobbyists acknowledge that they are willing to accept compromise legislation mandating unpaid leave for employees who are parents of newborns only. "We'll probably just hold our nose and take it," says one top business lobbyist. Watch for such a compromise to emerge after lawmakers return from their August recess.



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MEXICO

NOW MEXICO LOOKS LIKE A FIESTA FOR INVESTORS

But there's a major problem: The cash isn't going into the industries where it's most needed

Later this month in Mexico City, representatives of some of the world's leading airlines will find out who will be the new owner of one of Mexico's largest carriers, Compañía Mexicana de Aviación. Bidders include British Airways PLC and American Airlines Inc., and the price will exceed \$70 million.

Foreign airlines aren't the only investors taking a sudden new interest in Mexico. Such multinationals as Ford, General Electric, and Nestlé are now pumping money into the country (table). Mexican stockbrokers are getting calls from institutional investors in New York who are following the stock market's 54% surge since the start of the year. "We are definitely banking on the economic recovery in Mexico," says Paul L. Dawson, who heads Latin American operations for GE Plastics.

OPEN MARKETS. Mexico's new investment allure reflects the handiwork of President Carlos Salinas de Gortari. In office for just eight months, the former economist has opened Mexican markets, cut red tape, and relaxed restrictions on foreign investment. His latest triumph

was the July renegotiation of Mexico's \$97 billion foreign debt. After wrapping up the deal, Salinas said on television that Mexico was now ready to grow, and many believed him.

The result is a booming climate for foreign and domestic investment. Just since the debt accord, some \$700 million has been earmarked for new investment projects. The first wave is coming large-

ly from companies that now are unwrapping mothballed expansion plans. Some substantial projects are on the boards. Marriott Corp., together with Monterrey-based giant Cementos Mexicanos for example, plans to spend \$500 million over the next five years on five splashy resorts in such beach havens as Cancún and Ixtapa.

Yet the stubborn fact remains that so far almost all the new investment comes from companies already doing business in Mexico. They are following the few investment formulas that have succeeded during the country's long economic drought: tourism, *maquiladoras*, and auto assembly for export.

To prosper, Mexico requires heavy investments in basic industries and infrastructure. But new players, including the Japanese, still stand on the sidelines. "When the Japanese come, they'll come with a big project," predicts Carlos Camacho Gaos, director of Mexico's foreign investment office.

But they haven't come yet. The reason: Despite his early successes, Salinas has only begun to restructure Mexico's

SOME BIG CORPORATE PROJECTS IN MEXICO

Company	Purpose	Investment Millions
MARRIOTT*	New hotels	\$500
FORD	Expand and retool stamping plant	300
NESTLE	Add to food operations	300
GENERAL ELECTRIC*	Stove production	100
VOLKSWAGEN	Expand auto production	100
PROCTER & GAMBLE	Modernize; add two new product lines	94

*With Mexican partner

DATA: BW

economy. Industries are hostage to Mexico's ruined roads, rickety rails, and dilapidated power plants, and government oil and electricity monopolies are ill prepared to fuel growth. Says Rogelio Ramirez de la O, director of Ecanal, an economic consulting firm: "As soon as growth passes 2%, the lights will start going out."

To address these problems, Salinas has offered concessions for toll roads and bridges to private investors. Part of the \$3.5 billion in debt-for-equity swaps the government says it will permit over the next three years could go into such projects. And foreign companies may pick up shares in the telephone monopoly Teléfonos de México in exchange for multibillion-dollar investments. But three frequently cited obstacles to growth—the railroads and the electric power and oil industries—will remain under stifling governmental control.

PAINT PLANT. Some foreign companies, however, remain bullish. Taking advantage of the liberalized investment law, West German chemical giant BASF has bought land near Veracruz for a paint plant. Two other German chemical companies, Bayer and Hoechst, are looking to petrochemical investments in Mexico's oil patch.

One big question hanging over investment is whether inflation can be held in check. A two-year-old accord between government, business, and labor, known as El Pacto, brought inflation down from 160% to today's 17% annual rate. At that's still too high. For if Mexico's economy doesn't move into manageable growth—without inflation—by the end of the year, Salinas' investment pitch will lose its allure, and Mexico's giddy stock market, important as a barometer of confidence, could tumble. And political opposition from the recently quiescent left could revive if growth falls short of expectations.

Salinas' hopes rest on continued chummy relations with Washington. He has been losing political support at home moving into step with the Bush Administration on themes ranging from drugs and Central America to trade and migration. On Aug. 7, nearly half of Bush's Cabinet visited Mexico City for a day of consultations. The mood was mercurial. The payoff for Salinas' friendship is Washington's help with debt and World Bank credits.

So far in his six-year term, Salinas has defied the skeptics, carrying out his program step by step—from the jailing of union leaders to the signing of the debt deal. Now, he must move boldly to redress Mexico's economy and bring in wealthy partners at home and abroad. Only then can he hope to turn Mexico's foreign-investment bubble into a boom.

By Stephen Baker in Mexico City

JAPAN

HAVE JAPAN'S BREWERS BEEN DRINKING TOO MUCH?

They're pouring out new brands in a self-destructive war

As if Tokyo weren't hot enough already this summer, Japanese beer drinkers are working themselves into a lather just deciding which brand to buy. Cool? Hardy? Super Yeast? Fine Pilsner? Sae? These are just five of the eight new beers launched by Japanese brewers this year on top of several introductions last fall.

The country's four brewers now offer more than 40 domestic beers—up from some two dozen in 1985. "It's all very confusing, but not enough to stop me from drinking," quips building contractor Makoto Endo over a beer at Kyushu bar in Tokyo's Shibuya district.

All this brand proliferation can be traced to the phenomenal success of Asahi Breweries Ltd.'s Super Dry. The 1987 introduction now accounts for more than 20% of all beer consumed in Japan.

have decided, is that Japanese consumers want more varieties to choose from. The brewers hope there is another Super Dry to be found. The result: a costly game of wild experimentation to pursue potential market niches.

NO FILLERS. The most aggressive, Kirin, which has seen its market share dip from more than 60% to just under 50%, recently launched a three-year campaign promoting a full line of brews. The company offers 15 kinds of beer, including four of this year's eight new brands. Its Cool targets women aged 20 to 25, while Fine Pilsner tries to appeal to couples drinking at home. The strategy aims to lure consumers away from Super Dry and protect the company's top-selling Kirin Lager. "It's important for consumers to think of Kirin as ready with a beer for any time, place, or occasion," says



BREWS GALORE: WILD EXPERIMENTATION IS COSTLY—AND MAY NOT WORK VERY WELL

Super Dry has catapulted longtime laggard Asahi past Sapporo Breweries Ltd. to second place and more than doubled its share, to 24.5% of the \$17 billion market, which is led by Kirin Brewery Co.

Dry's ripples have spanned the Pacific: U.S. companies such as Anheuser-Busch Inc. quickly imitated Asahi, and their dry brands now have a 1% to 2% share of the U.S. market. Dry beer is one of the most successful launches since the 1970s, and U.S. brewers are eyeing Japan for other promising ideas.

In Japan, Asahi's three rivals are scrambling to recover. Dry's lesson, they

Seiji Kitano, deputy general manager of Kirin's beer sales department.

But, counters Tadao Tanitsu, a Sapporo general manager, "how far can a pie be cut in the name of satisfying consumer tastes?" Knocked into third place for the first time in 27 years, his company has responded with Cool Dry ("the dry beer for summer") and Winter's Tale, sold only from November to February. Like Asahi and Suntory, though, Sapporo lacks the resources for a full-line strategy such as Kirin's.

Fourth-ranked Suntory is staking its future on Malt's, a 100% malt beer that

eschews such "fillers" as barley and rice. Introduced in 1986, it's the most successful category after dry, with a 3% to 4% share. Suntory exports this brew to the U.S. under the Gold Draft label. **'DANGEROUS.'** To many, Japan's beer war appears self-destructive. "It's unheard-of in Japan to have so many brands crowding the market," says Patricia Horvath, an analyst at Barclays de

Zoete Wedd Securities (Japan) Ltd. "It's extremely dangerous and very costly." She notes that Kirin's and Sapporo's sales costs are rising far faster than sales, normally a no-no. Launching a brand costs about \$7 million. But the flood of new brands has captured less than 0.5% of the Japanese market. The likely result: severe overcapacity. "We overdid it this year and last year," says

Sapporo's Tanitsu. "Next year might be a time for reflection."

Will all the ferment lead to another Japanese beer sensation crossing the Pacific? Probably not immediately. But after dry beer's early U.S. success, American brewers may be tempted to try more Japanese beer innovations.

By Robert Neff in Tokyo, with Gregory L. Miles in New York

SOVIET UNION

FARMING FOR DOLLARS: GORBACHEV'S LATEST GAMBLE

He's betting that hard currency will boost grain production

Did you hear about the agronomist who won the top Soviet science prize?" goes a joke now popular in Moscow. "He invented a miracle strain of wheat that you plant in Kazakhstan and harvest in Nebraska." As the Soviets turn in their usual dismal agricultural performance, farm jokes are plentiful while food is scarce.

Yet after four years of half-baked agricultural reforms, Soviet leader Mikhail S. Gorbachev seems willing to bet on more serious incentives for farmers. In early August, his Council of Ministers approved a novel scheme to pay grain farmers with U.S. dollars or other hard currencies that they could spend on western consumer goods or farm equipment. Since holding foreign currencies is illegal for Soviets, the decision is a big step toward recognizing a more dollar-centered economy. And if this approach works, it might be extended to other industries such as personal computers or consumer goods.

The current plan is targeted at Gorbachev's toughest domestic problem, food shortages. Last year's grain harvest of 195 million metric tons was so poor that the Soviets must supplement it with some 36 million metric tons of foreign corn and wheat, estimates the U.S. Agriculture Dept.

The Soviets reason that instead of spending all of those dollars on imported grains, why not try flashing a few bucks to get better production at home, too. "A year ago, the idea that the Soviet Union would pay citizens dollars for what they produced was out of the question," says Ed A. Hewett, a Soviet expert



A TRACTOR IN THE UKRAINE: AS OUTPUT LAGS, INCENTIVES GET MORE DARING

at Washington's Brookings Institution. Under the new scheme, farmers will be paid dollars for above-average production of wheat as well as oilseed. The money will be paid into bank accounts that the farmers will use to pay for imported goods. Some farmers may now

buy foreign-made farm equipment and chemicals, snubbing less reliable Soviet products. "This is quite good for us," says Thomas Laurita, Moscow representative of Monsanto Co., a big

Last year's harvest was so poor that the Soviets will buy 36 million metric tons of foreign grain

pesticides supplier to the Soviet Union

But if the new policy is a success, it may reduce Soviet grain buying from the U.S. and other foreign producers. The Soviet Union is the largest foreign consumer of American farm products. Oleg Klimov, general director of the Soviet foreign grain trade association Exportkhleb, says the plan "may affect our purchases abroad this year and next." However, Richard E. Burket, vice-president of grain dealer Archer Daniels Midland Co., thinks growing Soviet demand will outstrip any production gains. This year, the Soviets appear headed toward record buys of U.S. grain, having already ordered 16.3 million tons of corn and 5.4 million tons of wheat.

RUBLE RHUBARB. The Soviets pay for those grains out of some \$34 billion earned from exports of arms, oil, and gold sales. Economists argued Gorbachev should use some of those dollars at home. But there could be a backlash from strike-prone Soviet workers not eligible for currency payments. Says Hewett, "People producing coal and oil are going to say 'What the hell is this? Grain producers get Sony TVs while we get rubles.'" The hard-currency plan also ignores the worst problem in

the Soviet food-supply chain: the primitive storage and distribution system which wastes 22% of the Soviet harvest compared with 10% in the U.S.

In the long term, the plan could have important effects for the Soviet monetary system. By making the dollar a recognized means of payment, it further weakens the largely worthless ruble which has a street value of no more than a dime. But in a country that views financial matters so primitively that its citizens can go to prison for possessing foreign cash, any measure that can modernize attitudes is a cause for cheer.

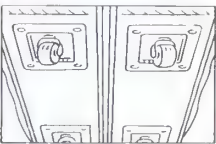
By Peter Galuszka in Moscow, with David Greising in Chicago

We Took A Great Idea,

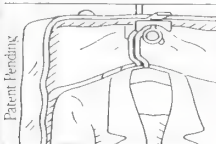


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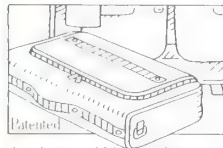


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THERE WILL BE SOMETHING FOR EVERYBODY IN THE CAMBODIAN SETTLEMENT

Vietnam's plan to pull its troops out of Cambodia by Sept. 27 is setting in motion radical changes in the politics of Southeast Asia. To end Cambodia's 10-year civil war, a 19-nation conference in Paris is negotiating agreements to set up an interim coalition regime of Communist and non-Communist factions in Phnom Penh. Subsequent free elections for a democratic government would be guaranteed for five years or more by a multinational peacekeeping force.

For Vietnam, withdrawing its remaining 50,000 to 70,000 troops from Cambodia will start a process of economic and political reintegration with the rest of Southeast Asia. Since it invaded Cambodia in 1979 and set up Phnom Penh's Communist government, headed by Prime Minister Hun Sen, Hanoi has been a virtual pariah in the region—even though it threw out the bloody Khmer Rouge, whose Marxist regime killed more than 1 million Cambodians. The troop pullback should also set the stage for another watershed event: a rapid improvement in U.S.-Vietnamese ties after decades of war and hostility. Vietnam is preparing for what it calls the "post-Cambodia era," including renewed links with the International Monetary Fund and World Bank, an influx of aid from Japan, Europe, and Australia, and stepped-up foreign investment.

U.S. POWER PRESSURE. Hanoi and Hun Sen's government bitterly oppose including the Khmer Rouge in a coalition. But Vietnam says it will end its military intervention next month without an internal political settlement in Cambodia. Barely able to feed itself after years of economic decline, Vietnam can no longer afford to keep an occupying army in Cambodia. The Vietnamese are also leaning on the Vietnamese to settle the conflict, which Moscow is now helping to support with costly subsidies. And Soviet leader Mikhail S. Gorbachev needs to fill a pledge made to the Chinese that he would persuade Vietnam to leave Cambodia.

The Chinese supply arms to the 50,000 Khmer Rouge guerrillas still fighting against Hun Sen, but Western observers

believe they will reduce their support if a settlement can be reached. At the Paris conference, which opened on July 30, China's Foreign Minister Qian Qichen said his country would join other major powers in cutting off weapons shipments to Cambodian clients.

The U.S. and six Southeast Asian countries back two democratic factions with smaller guerrilla forces, one led by Prince Norodom Sihanouk, Cambodia's former ruler, in a loose alliance with the Khmer Rouge against Hun Sen. But to get a settlement, the U.S. is willing to accept both Hun Sen and the Khmer Rouge as partners in a coalition headed by Sihanouk. The Khmer Rouge are a "fact of life," Secretary of State James A. Baker III says, although he hopes to minimize their influence.



HUN SEN AND SIHANOUK

Baker, Soviet Foreign Minister Eduard A. Shevardnadze, and other foreign ministers will return to Paris on Aug. 28 to wrap up the conference and, they hope, a Cambodian settlement. But Hanoi is already turning its attention to rebuilding its economy—which was "destroyed," Foreign Minister Nguyen Co Thach says, by a "romantic conception of socialism." In 1986, Vietnam attempted to bring market-oriented reforms to its economy, but they triggered raging inflation and black marketeering. This year, following visits by IMF missions, an austerity program has sharply curbed inflation—at the cost of factory shutdowns and rising unemployment. Foreign investments totaling \$388 million have also been approved since mid-1988, including offshore oil ventures by British, French, Belgian, and Indian companies.

To win better ties with the U.S., Vietnam will have to continue efforts to clear up questions about American prisoners and soldiers missing in action. But the intervention in Cambodia has been the main roadblock to normal relations. If Vietnam helps end Cambodia's civil war, it will also take a big step toward ending its long, bitter conflict with the U.S.

By Dori Jones Yang in Hong Kong and Bill Javetski in Washington, with Ruth Pearson at the U.N.

GLOBAL WRAPUP

SOUTH KOREA

There's dangerous polarization in Seoul politics again with the government's charge that opposition leader Kim Dae Jung got funds indirectly from North Korea. Kim denies the accusation, calling it an attempt by President Roh Tae Woo to destroy him and his Peace & Democracy Party. He vows to fight back with street protests. The government says that Suh Yung Won, an aide to Kim, received \$10,000 from the North Koreans during an illegal visit to Pyongyang last year and gave \$10,000 to Kim. If the government is able to prove its allegation, Kim will be forced out of politics,

and his left-leaning party will be leaderless. But if Roh fails to make the charge stick, he will face an even more militant opposition.

Kim is also under fire for refusing to clarify whether he believes that Korean reunification requires the removal of U.S. troops. That issue may heat up during next month's visit by Vice-President Dan Quayle, who is expected to discuss a partial U.S. troop pullout.

SOVIET UNION

In a shift toward Western-style financing for a Soviet joint venture, foreign lenders for the first time are accepting a guarantee from a Soviet enterprise, Aeroflot, rather than from

the Soviet government. Aeroflot will own a 66% share in a \$83 million, 516-room hotel to be built at Moscow's Sheremetyevo Airport by a group including France's Accor hotel chain and Connecticut hotel developers Afrex International Corp. A syndicate of Western European banks led by the Soviet Union's London-based Moscow Narodny Bank is financing the venture.

Accor will operate the hotel as part of its Novotel chain and expects most guests to be foreign businesspeople who will pay in hard currency. But the venture will barely dent the unmet demand in Moscow for international-standard hotel rooms, which are now practically nonexistent.

BASEBALL

HOW DO YOU SAY 'SLAM DUNK' IN ITALIAN?

By signing Danny Ferry, basketball in Italy makes a big score

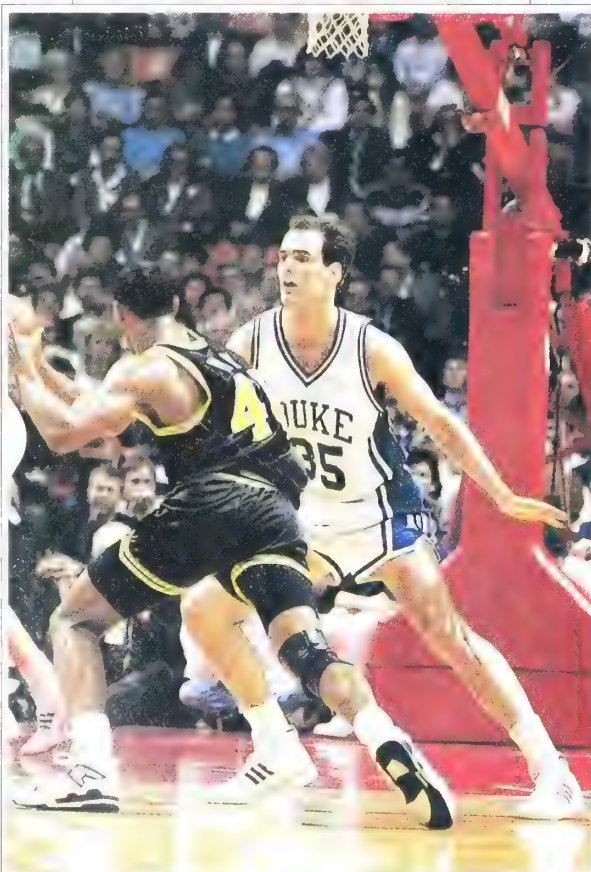
It was an unlikely setting for negotiating a basketball contract: the sumptuous salon of a 15th century palazzo on Venice's Grand Canal. Danny Ferry, an All-American from Duke University, had been secretly whisked to Venice by private jet in early July. Even though the Los Angeles Clippers had tapped him as the second player chosen in the National Basketball Assn.'s draft of college stars, Ferry was there to discuss terms for joining Messagero Roma, the capital's professional team. Messagero had been bought a few months before by the palazzo's owner, Italian agribusiness magnate Raul Gardini.

By the end of the visit, Ferry was Messagero's for a cool \$1 million minimum a year. It was, as they say, an offer Ferry couldn't refuse. "I don't want to talk about money," said Messagero's president and Gardini's brother-in-law, Carlo Sama. "My one and only duty is to make Rome a winning team."

It looks as if Ferry and other talented American hoopsters are going to have to start conjugating "dribble" in the language of Dante. The 32 teams of the Italian Basketball League are out to get the best American players they can lure away from the NBA. Until now, most Americans recruited by Italian teams either weren't good enough for the NBA or, in the case of name players, were fading stars. Former Los Angeles Lakers forward Bob McAdoo, for example, will be playing this season for Philips Milano, Italy's top team. Sugar Ray Richardson, formerly of the New Jersey Nets, is shooting hoops for Bologna. But now, Messagero has lured another up-and-comer, Brian Shaw, away from the Boston Celtics to play with Ferry.

LIRA OPTION. Ferry's signing suggests that Italian basketball will quickly notch up its caliber of play. Although Ferry is neatly passing up the hapless Clippers to take advantage of "a unique opportunity: living in Rome, learning a new lan-

guage, experiencing different cultures," his move and the money he's being paid give other top U.S. draft choices the option of making their careers in Italy. Ferry's paycheck is the biggest in Italian athletics after that of Argentine soccer superstar Diego Maradona, who earns \$1.5 million. Until now, salaries for American basketball players, whose number is limited to two per team, gen-



HOOPLA: ROME'S TEAM WILL PAY FERRY \$1 MILLION A YEAR

erally started around \$300,000—twice what their Italian counterparts make. Alessandro Crovetto of the Italian league doesn't mince words: "Our big teams can compete directly with the NBA now."

Among spectators, Italian basketball is suddenly as hot as pizza Margherita right out of a Naples oven. Along with Ferry's salary, the \$5 million paid recently by Milano to buy the contract of

Antonello Riva, a top Italian player, shows that a lot of money is riding on the game. Although basketball has been played in Italy for over 60 years, only in the past few has it become the No. 2 spectator sport. (Soccer still holds the top spot.) More than 25% of Italy's TV audience now tunes in for the league play-offs in May, and last season, 2 million fans watched the games live. Hundreds of thousands of Italian viewers stay up late to watch transmissions of NBA finals beamed from the U.S. In late October, they will be able to see the NBA in the flesh when the Denver Nuggets come to Rome for a round-robin tournament with three European teams.

CLEANER FUN. Perhaps the most telling sign that basketball is booming is that big business is getting in on the act. Previously, that was true only of soccer.

Under Italy's somewhat paternalistic capitalism, no self-respecting billionaire was without his soccer club. Gianni Agnelli is renowned in Italy almost as much for owning Turin's tough Juventus team as for running Fiat, the country's largest private industrial group. Milan's soccer champions are owned by Silvio Berlusconi, who operates southern Europe's largest broadcasting empire.

Now, having your own basketball team could become just as important. Berlusconi, who bought the rights to broadcast NBA games on his nationwide TV stations, tried in vain to buy the Philips Milano basketball team last spring from local property developer Gian-Mario Gabetti. The Agnellis are heavily rumored to be negotiating to buy a top team. Gardini, one of Italy's most powerful industrialists, has by passed soccer altogether. The millions he is pouring into Messagero—named for the Roman daily newspaper he also owns—are a bet that basketball, not soccer, represents the future of Italian sports. He may be right. Certainly the image of Italian soccer has been damaged by the ugly passions it arouses. As in Britain,

matches are often marred by brutal violence among club supporters. Says Messagero's Sama: "Soccer has become too violent, too bloody. Basketball is healthy, and that's the image we're after." That's why he's paying big dollars, and that's why Americans, who invented basketball, can no longer keep the game to themselves.

By John Rossant in Rome

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RICHARD GORDON PLAYS ONLY ONE WAY—HARD

The Whalers' owner presses ahead on a risky high-rise

Richard Gordon has a distinctive understanding of the word "passive." A year ago, the Connecticut real estate developer joined forces with Donald G. Conrad, a former executive vice-president at Aetna Life & Casualty Co., to buy 75% of the Hartford Whalers hockey team for a record \$23 million. Conrad, who set up the deal, was to be managing general partner, and Gordon, who put up most of the money, a passive partner. But scarcely had the deal closed when Gordon began behaving as if he ran the team. A battle for control ensued, and Gordon emerged as managing general partner. "I was later told he wanted control from day one," Conrad says bitterly, "but he didn't tell me."

It should have been obvious. In his two decades in Hartford, Gordon has been anything but a passive investor. He has built 3 million square feet of office space in downtown Hartford, or more than one-third of its prime rentable capacity. He has also built 1.2 million square feet of offices out of town, amassing a net worth estimated at \$400 million. He and his wife live in a sprawling brick house on nearby Avon Mountain and keep a 30-room summer house in Newport, R. I. No recluse, he loves to hobnob with the city's top executives, and he includes sports stars such as Ivan Lendl among his friends.

WHAT GLUT? Now, Gordon, 47, is promising a risky move that could make him an even bigger man about town. In a few weeks, he plans to announce a \$250 million, 1 million-square-foot office tower with parking for 3,000 cars. With 12.9% of prime downtown space vacant and the insurance industry retracting, other de-

velopers say it makes little sense for Gordon to expand the market by 12.5%. Several projects, including developer David Chase's 400,000-square-foot World Trade Center of Hartford, have been put off indefinitely. But Gordon is unfazed. He claims to have a potential tenant that could become his partner and occupy 65% of the building. Although he has no definite lessee, Gordon went ahead last month and purchased a site.



Long before he knew anything about real estate, Gordon was proving himself on the tennis court. Growing up in Rochester, N. Y., he was competing by age 11, and as an undergraduate his prowess earned him a place in the Athletic Hall of Fame at Ohio Wesleyan University. At Syracuse University law school, he continued to play in amateur competitions. In 1967, the year he arrived in Hartford to work at a law firm, Gordon won the New York State doubles championship. His partner and roommate at the time, Dr. Richard Raskin, later won

fame by having a sex-change operation and becoming Renee Richards.

Gordon's first successful real estate venture came while he was still at his first \$150-a-week law job. In 1973 he saw a newspaper ad offering four acres near Interstate 84 in Farmington, Conn., for \$140,000. Without putting down any cash, he persuaded the architect who owned the land to make Gordon his 50% partner. The building they put up later became headquarters for Emhart Corp. The next year Gordon left his law firm to join an oil-distribution company, Energy Unlimited, but he says he was fired within a short time after he refused to round up investors for an energy-plan venture he considered unworthy. His career as a full-time real estate developer was born.

FAMILY TIES. His struggle for control of the Whalers drew Gordon into the public eye as never before. He fed local news-

paper reporters daily details of his efforts to take over the lowly team, and he made a show of sitting with players' families and season-ticket holders while his partner remained in the Whalers' skybox. In March, when Gordon offered Conrad \$3 million for his 37.5% stake, Conrad responded by offering the same amount for Gordon's share. Under the terms of their original agreement, Conrad should have won control for matching his partner's bid. Gordon acknowledges that, but says he felt he had support from the players and was willing to fight to keep the team. Rather than face a protracted court battle, Conrad sold his share to Colonial Realty Group, a

earlier bidder for the team, for \$1 million.

Since then, Gordon has replaced much of the coaching and front-office staff and has built a \$2.4 million practice rink. He says he's willing to spend more money to attract better players, with the grand hope of winning the Stanley Cup which the team has never done. Says Gordon: "This little \$35 million business is the most important thing in Hartford." At least until his new office tower is complete.

By Resa King in Hartford



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*J.D. Power and Associates 1989 Initial Quality Survey covering November and December, 1988. Based upon owner-reported problems during the first 90 days of ownership



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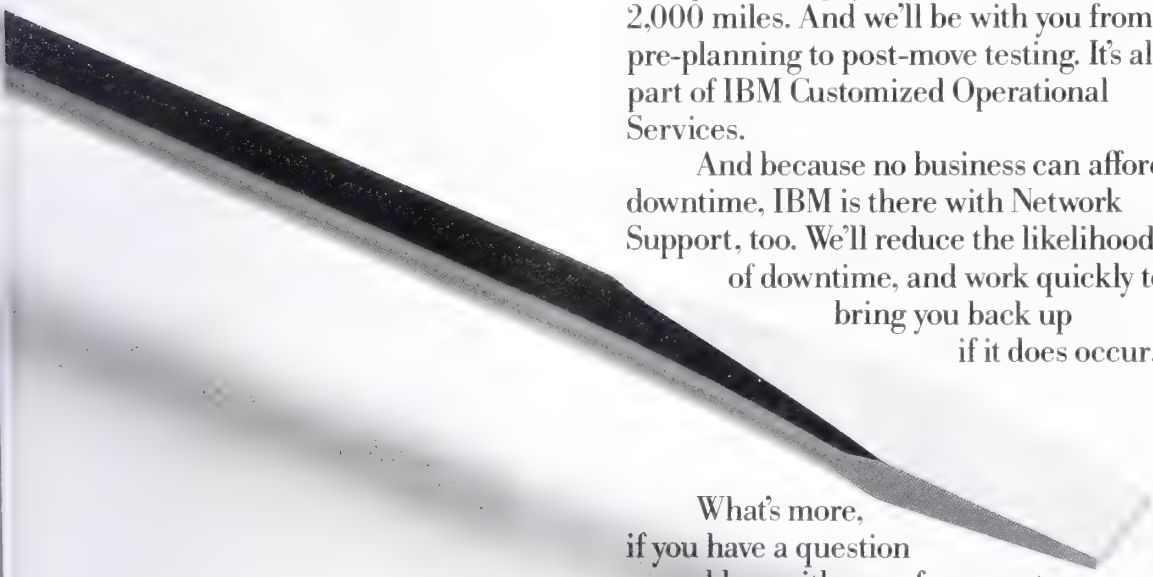
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STALKING THE NEW CONSUMER

AS MARKETS FRACTURE, P&G AND OTHERS SHARPEN 'MICRO MARKETING'

In 15,000 supermarkets and drug-stores in all 50 states, shoppers pushing carts down aisles are serenaded by music interspersed with commercials for Crest, Ivory shampoo, and Pepto-Bismol. In the lunchroom of Central High School in Knoxville, Tenn., the Chicago Bulls' Michael Jordan looks down at teenagers from a giant poster, at the bottom of which are ads for Scope and Head & Shoulders. At state fairs, staffers at Pampers' mobile Baby Care Centers change 80,000 diapers a year. And all across the country, fans of *The Wizard of Oz* will see a spot for Downy when they pop a tape into their VCRs.

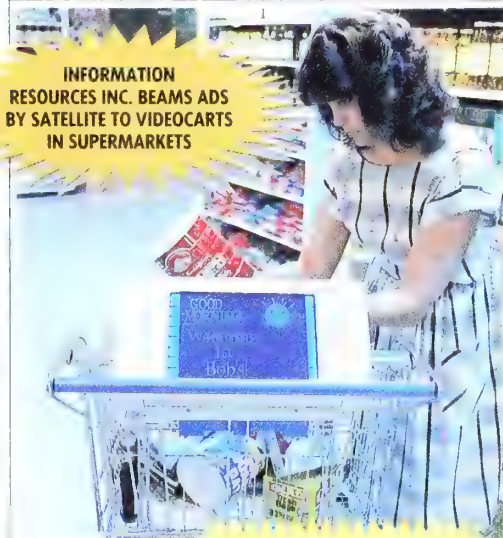
Radio spots in supermarkets? Ads on videotapes? Welcome to the brave new world of marketing, Procter & Gamble-style. If it all sounds a little strange, well, as Dorothy said to Toto: "I have a feeling we're not in Kansas anymore."

Life used to be much simpler. Mass marketers such as Procter & Gamble Co. would cook up innovative but fairly utilitarian products and advertise them on network TV. All the housewives between the ages of 18 and 34 watching *Search for Tomorrow* or *The Edge of Night* would see the ads and rush out to buy disposable diapers and dish detergent. The commercials were boring, but

they saturated the airwaves and repeated the products' names over and over. Supermarkets stocked their shelves, and consumers came and bought.

Things don't work quite that way anymore. Real product innovations are rare. And most women 18 to 34 aren't sitting at home watching the soaps. They're in college, or they're working as lawyers, cab drivers, or lathe operators. A 15-year-old boy may be doing the family shopping. Many customers are single; many are old, many don't speak English, and some can't even read. Few of them are watching dull, name-dropping ads.

Supermarkets have changed, too. Re-



INFORMATION RESOURCES INC. BEAMS ADS BY SATELLITE TO VIDEOCARTS IN SUPERMARKETS

LINE EXTENSIONS SATISFY THE TASTES OF EVER-SMALLER MARKET SEGMENTS



HOW TO BE A MICRO MARKETER

KNOW YOUR CUSTOMERS

Consumer-goods companies are using high-tech techniques to find out who their customers are—and aren't. By linking that knowledge with data about ads and coupons, they can fine-tune their marketing.

MAKE WHAT THEY WANT

In an age of diversity, products must be tailored to individual tastes. So where once there were just Oreos, now there are Fudge Covered Oreos, Oreo Double Stufs, and Oreo Big Stufs, too.

USE TARGETED AND NEW MEDIA

Companies aiming for micro markets are advertising on cable TV and in magazines to reach special audiences. And they're putting their messages on walls in high-school lunchrooms, on videocassettes, and even on blood-pressure monitors.

USE NON MEDIA

Marketers are sponsoring sports, festivals, and other events to reach local or ethnic markets. Latino events such as Carnival Miami are hot. So are sports ranging from golf to hydroplane racing.

REACH CUSTOMERS IN THE STORE

Consumers make most buying decisions while they're shopping. So marketers are putting ads on supermarket loudspeakers, shopping carts, and in-store monitors.

SHARPEN YOUR PROMOTIONS

Couponing and price promotions are expensive and often harmful to a brand's image. Thanks to better data, some companies are using fewer, more effective promotions. One promising approach: Aiming coupons at a competitor's customers.

WORK WITH RETAILERS

Consumer-goods manufacturers must learn to "micro market" to the retail trade, too. Some are linking their computers to the retailers', and some are tailoring their marketing and promotions to an individual retailer's needs.

DATA BW

tailers are no longer willing to give manufacturers miles of shelf space to park their soap or canned beans. They're more interested in selling high-margin items such as their own flowers or store-baked cookies. They need incentives to squeeze a product in somewhere.

'MOZAIC.' The wonderful post-World War II mass market has shattered into millions of pieces. "The mythological homogeneous America is gone. We are a mosaic of minorities," says Joel D. Weiner, senior vice-president for marketing services at Kraft USA. "All companies will have to do more stratified or tailored or niche marketing."

At Procter & Gamble, the change has been particularly tough to accept. The huge consumer-products company practically invented mass marketing, pioneering such classic techniques as couponing and radio and TV advertising. But now, even this grandfather of the business is feeling its way to a whole new type of marketing. The closely watched but notoriously tight-lipped company is using new information and technologies to pinpoint its customers and figure out what motivates them. It is experimenting with new, targeted media to reach them. It's using sophisticated promotions, special-

ized messages, better ads, and customized products to motivate them. It is learning to become a micro marketer.

P&G is hardly alone. All U.S. consumer-goods companies have been struggling in recent years to meet the new marketing challenges of the 1980s. "Maybe you have to come up with a new definition of a mass marketer," says Marv Solomon, vice-president for mar-

Rather than make one boffo ad, micro marketers spread their bets on many efforts that pay off in small increments

keting services at Warner-Lambert Co., which has cut its ad spending on network TV for its brands, including Listerine, Trident, and Schick. Instead, it is experimenting with everything from direct mail to cable TV to putting ads on blood-pressure monitors in pharmacies.

Micro marketing is vastly more complex than mass marketing. Rather than wagering big bucks in hopes of produc-

ing one boffo TV ad that will quickly boost sales, micro marketers spread their bets on lots of different efforts, each of which may pay off in small increments. Much of the resulting variety of methods and media is still experimental, and it's often hard to tell exactly how well each is working. But the little things do seem to be adding up.

P&G noticed, for example, that vacuum brick-packs of ground coffee were popular in the South, so it repackaged its Folgers brand for those markets. That was part of a general revamping that included a new ad image and targeted promotions. Result: Folgers coffee rocketed to 32% of the total U.S. market last year, from 24% in 1982. Overall, seven of P&G's nine U.S. consumer divisions hit record unit volumes in the fiscal year ended June 30. With improving margins at home and soaring results overseas (page 58), the company reported net earnings of \$1.2 billion, up 18%, on revenues of \$21.4 billion, up 11%.

Nowhere has the shattering of the mass market been more apparent than in TV advertising. Even during prime time, the networks' share of the audience has plummeted during the past decade from 92%



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SPORTS MARKETING: JIF PEANUT BUTTER AND PRINGLE'S POTATO CHIPS SPONSOR A HYDROPLANE



WHITTLE COMMUNICATIONS' WALLBOARDS BRING ADS TO HIGH SCHOOLS, DENTISTS' OFFICES, AND BEAUTY PARLORS

to 67%, according to A. C. Nielsen Co. And their daytime share has fallen to 57%, from 78%. At the same time, the average price of a choice 30-second prime-time spot has shot up 85%, to \$185,000. To make matters worse, 35% of all network ads are now only 15 seconds long, so more messages are cluttering the airwaves. All that adds up to less effective advertising. "It is much, much more difficult for us as advertisers to reach our audience—and more expensive," says one food-company executive.

BITTER PILL. For P&G management that grew up in a world where network television was the only medium that mattered, those changes have been disconcerting. "They knew that every week they would have three minutes on *As the World Turns*, and that was chiseled in granite," says one former P&Ger. "It has been a very tough pill to swallow to say it just isn't working."

But it isn't. The loss of the old verities of media and marketing cost P&G dearly. Mired in low-growth markets and battered by a series of unsuccessful new-product forays, trouble overseas, and loss of market share to newly aggressive competitors, P&G suffered a startling earnings decline in 1985—its first since 1953. There was talk that the Cincinnati colossus had feet of clay—that it was too big, too bureaucratic, and too sclerotic to respond to a rapidly shifting marketplace.

Lately, though, P&G has been proving the naysayers wrong. It has become one of the biggest sponsors of such ad alternatives to the networks as cable and syndicated TV, as well as spending heavily on radio, specialized magazines, and other media.

While much of that shift is the result of rising costs, it also reflects a growing desire to target the company's ads and chase the audiences that are deserting the networks. For example, P&G buys ad time on health-related cable TV shows to trumpet the benefits of its low-saturated-fat Puritan oil. And it now has six different campaigns aimed at Crest toothpaste buyers—including kids, blacks, and Hispanics. P&G also spends some \$61 million a year to advertise to target audiences on syndicated TV shows. This summer, for instance, it is advertising such brands as Clearasil acne medicine to teens on *Endless Sum-*

mer with The Beach Boys, a series of concert shows.

Other marketers are doing much the same. At Best Foods, the CPC International Inc. unit that sells Hellmann's, Mazola, and other brands, cable accounts for about 10% of all media spending. "We can't be successful only appealing to the 70% watching network TV," says Robert J. Gillespie, Best's president. Since September, H. J. Heinz Co.'s Ore-Ida Foods Inc. unit has spent almost half the ad budget for its Steakumm sandwich meats on MTV in order to reach teens. That has helped the brand reverse several years of market-share declin-

Purchase Radio Corp., which offers 48 minutes of music interspersed with 12 minutes of ads—all played over a super-market's loudspeakers. By one estimate, two-thirds of all buying decisions are made in the store, so companies are trying to reach shoppers at that crucial moment. Besides radio, they're putting up signs, installing computerized information kiosks, and beaming ads to video screens on shopping carts.

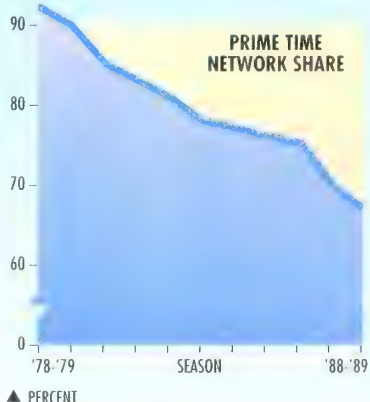
And as the networks lose viewers to the VCR, P&G is just following along onto videocassettes. P&G's Scope, Pepto-Bismol, Head & Shoulders, and Crest now provide half the ads on Home Video Preview. This startup distributes 70,000 free 35-minute videotapes each month previewing movies that will soon be available for rental. P&G's Downy and MGM/UA Home Video have just begun a joint promotion of a 50th anniversary video of *The Wizard of Oz*. Besides TV ads and a \$5 tape rebate tied to the purchase of Downy, the campaign includes an ad for the fabric softener on the cassette.

P&G is also a big spender on the experimental media offered by Whittle Communications. Whittle has created advertising wallboards that it hangs in such places as high schools, beauty parlors, and dentists' offices. It also places free magazines called *Special Reports* in doctors' waiting rooms. And it is the creator of Channel One, an ad-supported news broadcast for schools. Despite strong opposition in some states, Whittle says the 12-minute telecast will be offered to high schools nationwide next spring. Whittle has become one of Procter's biggest media vendors after the three networks—although there are signs that P&G has growing doubts about the effectiveness of Whittle's products.

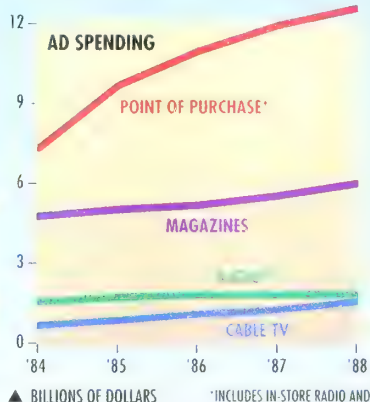
HYDROPLANING. P&G is also using local promotions and event sponsorship to reach special markets. There's the Pamper's Baby Care Center, and there are such things as Pepto-Bismol chili cooking contests, sing-in-the-shower contests sponsored by Coast soap, and the Crisco American Pie Contest. And its Jif peanut butter and Pringles potato chips sponsor a 30-foot hydroplane that is competing in 10 races this summer.

P&G is also stepping up its marketing efforts aimed at Hispanics, blacks, and

AS AUDIENCES LEAVE THE NETWORKS...



...ADVERTISERS LOOK ELSEWHERE



DATA: A. C. NIELSEN, POINT OF PURCHASE ADVERTISING INSTITUTE, PUBLISHERS INFORMATION BUREAU, RADIO ADVERTISING BUREAU, PAUL KAGAN ASSOCIATES
*INCLUDES IN-STORE RADIO AND VIDEO, DISPLAYS, AND SIGNS
**NETWORK AND SPOT

es. "We found this audience not through ABC, NBC, or CBS, but through MTV," says Anthony J. F. O'Reilly, chief executive of Heinz. "As the dozens of cable channels begin to define their own audiences, people with products for those audiences will go that way."

'EXOTICA.' Many already have. In all, ad spending on both syndication and cable is expected to rise 25% this year, compared with only 1% for the networks. And one major ad agency, DDB Needham Worldwide Inc., has even told its clients to put 25% of their total ad budgets into cable, up from only 5% five years ago.

P&G has also been plowing a lot of money and effort into what one network executive sniffily calls "media exotica." These new ad beasts include Point-of-

One coupon specialist has data on product usage, hobbies, and travel habits for 25 million households

the elderly. It advertises heavily on Spanish-language TV and has become a major sponsor of local Hispanic events. At Carnival Miami last March, for instance, 14 of the company's brands helped put on entertainment ranging from a beauty contest to a block party, and consumers lined up for free samples of P&G products.

RETAIL DETAIL. Besides coming up with new tools for reaching smaller groups of customers, consumer-products companies are finding new ways to figure out just who it is they want to reach. Most mass marketers have long relied on fairly blunt tools to give them a rough pic-

ture of who was likely to buy their products. They segmented the market by demographics—age, sex, income, and so on—and later by psychographics, which classified people by attitudes and values. But all such systems were approximations, abstract methods to group still-anonymous consumers into big clumps.

More recently, packaged-goods companies have been coming a little closer to the direct-marketing techniques used so effectively by banks, airlines, and hotels, which collect customers' names, addresses, and details of what they have bought in the past. If the sellers of soap and spaghetti sauce could get that sort of

data, they could see what ads and promotions worked best at keeping current customers and at luring new ones.

Now, although the progress is still slow, they are getting some of those data and figuring out how to use them (box). "The marketing battleground is shifting at an extremely rapid pace to the information battleground," says Don Peppers, executive vice-president for business development at Lintas:USA, a New York ad agency with a large base of packaged-goods clients.

Weapons for that battle are becoming quite sophisticated. Computerized Marketing Technologies Inc., for example,

THANKS TO THE CHECKOUT SCANNER, MARKETING IS LOSING SOME MYSTERY

Half the money I spend on advertising is wasted, and the trouble is, I don't know which half.

—William H. Lever
founder of Lever Brothers Ltd.

What makes a shopper buy a particular brand of dog food or detergent? It seems like a simple enough question. Yet, despite billions of dollars spent every year to advertise and promote packaged goods, companies have never been entirely sure how effective each marketing tool really is.

That's finally beginning to change. The installation of checkout scanners in most of the nation's supermarkets has brought with it an avalanche of data, more timely and specific than any available before. Though most marketers are only beginning to exploit this information, they are getting a better feel for exactly what a price cut, coupon blitz, store display, or discount to the retailer actually does for sales and profits.

WEEKLY REPORTS. Instead of receiving monthly or bimonthly reports with at best a regional breakdown of how a brand is doing in its category, marketers now get weekly data for every item and size, sometimes down to the individual store. This creates endless possibilities for investigation. How often should a coupon be used, and does it work better in Des Moines than in Dallas? Is one size easier to sell to retailers than another?

So far, marketers have gotten fur-

thest in examining the effectiveness of promotions such as displays and newspaper ads. The three sellers of scanner data—Control Data's SAMI, Dun & Bradstreet's A. C. Nielsen, and Information Resources Inc.—all track such information along with product sales. Using such data, Nestlé Foods Corp. learned that a combination of store displays and newspaper ads resulted in huge volume increases for its Quik chocolate drink.



DO PROMOTIONS WORK? THE DATA ARE COMING IN

Warner-Lambert Co. found that in some instances, store displays were far more effective than newspaper ads or price promotions, and its sales force now focuses on persuading supermarkets to provide such displays. Ore-Ida Foods Inc. priced a frozen-food brand below a key rival's, but it turned out that retailers were pocketing the difference and providing the competition with more merchandising support. When weekly chain-by-chain scanner

and promotion data revealed the problem, Ore-Ida decided to boost its prices and use the extra margin to pay for promotional efforts such as bigger newspaper ads.

FRUSTRATION. Most marketers haven't gotten as far using scanner data to analyze the effects of TV advertising and consumer promotions such as coupons. Nielsen, SAMI, and IRI all supply some of that data. But a system to provide reliable nationwide information linking which TV ads individual households watch with what they buy is still under construction. Eventually, packaged-goods companies hope such "single source" data will allow them to hone their marketing even more finely. If they know how effective specific commercials or coupon programs are, they can decide whether they are worth the trouble and expense.

In the meantime, they are trying to figure out how to make better use of the reams of information they already have. After some early optimism, most big manufacturers are frustrated by their slow progress. The data still have glitches, and there's not enough software available for analyzing them. "The information preceded clients' ability to handle it," says SAMI head Steven A. Wilson. "They can't absorb the amount of information we're imposing on them." Adds Brian M. Shea, Ore-Ida's marketing research manager: "The promise is there to do all this linking, but I haven't seen it yet."

Still, that hasn't stopped packaged-goods marketers from continuing their push to use scanner data. If that information ultimately gives them the answer to Lever's conundrum, it will be worth the wait.

By Zachary Schiller in New York

P&G GOES GLOBAL BY ACTING LIKE A LOCAL

Pink diapers for girls and blue ones for boys? The idea prompted snickers at first, but no one's laughing now. The sex-typed diapers are a hit on three continents. Their universal success is also the latest sign that Procter & Gamble Co. has learned a lot about marketing overseas.

P&G wasn't always so nimble abroad. For years, it was something of an Ugly American, taking products developed for the U.S. market and trying to push them into foreign markets with American-style marketing and ads. Such efforts to standardize worldwide marketing techniques were fashionable in the early 1980s, under the banner of "global marketing." But P&G has learned that the trick to going global is acting like a local.

BIG LOSSES. Take P&G's experiences in Japan. A homogeneous society, Japan remains in many ways a classic mass market. Still, for P&G, it is a fragment of the worldwide market, and one for which it has carefully tailored its marketing. But it learned to do so only after some bitter lessons—and more than \$200 million in losses from its arrival in 1971 to 1987. "P&G had a very hard time accepting that Japan was not going to be like the U.S.," says an American marketing executive in Tokyo.

P&G won an early lead in disposable diapers after introducing Pampers in Japan in 1977, for example. But it quickly lost market share when competitors Uni-Charm Corp. and Kao Corp. introduced fitted, thin diapers that won over mothers who had resisted disposables. "We really didn't understand the consumer," says Edwin L. Artzt, P&G's vice-chairman, who acknowledges that P&G was slow to improve its bulky, rectangular Pampers.

Now, things have turned around dramatically. P&G's sales in Japan grew 40%, to \$1 billion, in the fiscal year ended June 30. Overall international profits grew by 37%, to \$417 million.

Says P&G's Artzt: "We want to be the No. 1 consumer-products company in Japan." To help reach that goal, P&G has hired more Japanese staff and attuned its

ways to local styles. "It's more Japanese than some Japanese companies," says Noriko Sakoh, an analyst at SBCI Securities (Asia) Ltd.

TALKING DIAPERS. For example, P&G's ads now prominently mention the company's name as well as the product's. That's something P&G's ads in the U.S. rarely do, but such corporate identification is important to the Japanese. And while a U.S. ad might show a diaper absorbing a cup of liquid, a popular

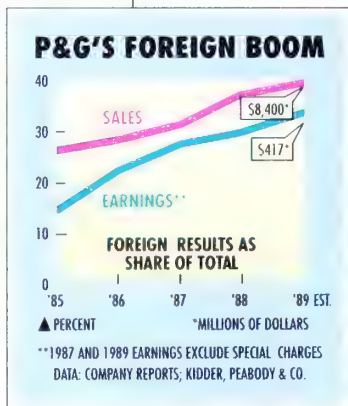
Pampers ad in Japan used an indirect approach: A talking diaper promised toddlers that the brand wouldn't leak or cause diaper rash. P&G finally introduced a superabsorbent thin diaper, and then it surprised rivals with the pink and blue Pampers. After sinking to less

than 10% of the market, P&G's share is up to 20.5%, challenging Kao for the No. 2 spot.

Worldwide, P&G is rolling out new products more quickly, partly because it has built strong local operations that are closer to the market. "P&G used to be bloody slow," says Michael R. Angus, chairman of Unilever PLC, P&G's global archrival. "They were so thorough, the world changed between the origination of an idea and the product actually appearing on shelves."

P&G now tries to develop what Artzt calls "big edge" products, with a technology that can be applied worldwide but in forms tailored to local needs. Its Japanese sanitary pad, Whisper, for example, is smaller and thinner than its U.S. counterpart, Always. "We've made it right for the Japanese woman, and we've made it right for the American woman," Artzt says. P&G's foreign performance has been so torrid that there is even talk that Artzt, who is in charge of international, could become P&G's next chief executive. The very idea speaks volumes about the globalization of the Cincinnati colossus.

By Zachary Schiller in Cincinnati and Ted Holden in Tokyo, with Mark Maremont in London



sends out millions of detailed consumer questionnaires. As a result, CMT now has data on the product usage, hobbies, travel habits, and other facts for 25 million households. It mails coded coupons three times a year to 15 million households and can deliver different coupons to different consumers. For some two dozen products, "we know who are current users, who are competitive users, and who are nonusers," says Gary R. Blau, CMT's managing partner.

That's especially useful information. Since markets for products such as soap and food are scarcely growing, packaged-goods companies can get bigger only by luring customers from the other guy. But because most coupons—80% to 85%—are redeemed by current users of the product, they aren't much help in doing that. Now, CMT can send out coupons for one product to regular users of a competing brand. Anything that can make coupons more effective will be a big relief to consumer-goods companies which typically spend 25% of their marketing budgets on consumer promotions.

Since P&G has always been a by-the-numbers sort of marketer, it's not surprising that it is working hard to use new technology to make its promotions more effective. In the past, P&G had to judge the effectiveness of an ad campaign, coupon drop, or other promotion on the basis of how many cases a retailer bought, even if many of them just went into inventory for sale later. Now by using the weekly sales data that are available from supermarket scanners "P&G is able to get a better idea of consumers' response to the promotion," notes Greg Goff, former Crest brand manager. The company can look at which sizes to push, how it does against the competition at different prices, and what combination of newspaper feature ads and store displays is most effective.

PAPERLESS COUPONS. That's just the beginning, though. Procter has also started a joint venture with Donnelley Marketing and CheckRobot Inc. called Advanced Promotion Technologies Inc. APT's Vision System can automatically deduct instant refunds from a customer's tab. Or it can print out coupon right at the check-out counter to influence brand choices on the next shopping trip—with the type determined by what the shopper has just bought.

And later this summer, APT will begin testing a frequent-shopper program at Des Moines supermarket chain. Shoppers will use a "smart card" with a computer microchip to record their purchases. A shopper who buys a brand from P&G or another participating marketer such as Kraft General Foods, Campbell Soup, Del Monte, or Ralston

How do you get one of these babies
off the drawing board and
onto the road in record time?
You start by saying,
“Let’s reach a little higher.”



Robert W. Morrison
Product Engineering
Manager, Cab
Freightliner Corporation

Larry Murray
General Purchasing Agent
Freightliner Corporation

Time was when heavy-duty truck designs changed about once a decade. But no more. Global competition has accelerated the process, and the automotive people of Rockwell are responding in support of their truckmaking customers. One example of business in the fast lane is a challenge we got from the team at Freightliner: Design a complex plastic-composite hood and fender assembly and deliver it in about half the normal time. Here's the story from the people who made it happen.





Larry E. Rood
Account Manager
Plastic Products Businesses
Rockwell International



John D. Krebs
Manager,
Product Design Engineering
Plastic Products Businesses
Rockwell International

Morrison: There is a definite trend to aerodynamics in heavy trucks to improve fuel efficiency. Our latest design addressed this customer need, and we wanted to get into production quickly. That's where Rockwell really helped.

Murray: First we put together a team of manufacturing, engineering and purchasing people and began evaluating suppliers. Twenty-four months is a normal schedule for a project like this ... eighteen months is a compressed program. We got together with Rockwell and decided we could do it in twelve.

Krebs: Right. We felt we could do it using simultaneous engineering and program management to streamline the decision making process.

Rood: But we had to do everything right the first time. And we couldn't get

tied up in a lot of management reviews and paperwork — when we came to critical points, we didn't have time for committee decisions.

Krebs: Bob's people would be approving a design and Larry would be ordering the steel for the tooling and incorporating changes the same day.

Morrison: It was also complicated by the fact that I'm in Portland, Larry's in Charlotte and the Rockwell folks are in Detroit. But the point is, we made it. The new model has been on the road about a year now, and it has been very well received. It helped us reduce the drag factor which translates into an increase in fuel efficiency for our customers.

Murray: I think the key to the project's success was the total commitment by Rockwell to get the job done.

Rood: Simultaneous engineering and program management are concepts whose time has come. We're applying these practices with all our customers. It's definitely doable—we've made it happen.

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International**

...where science gets down to business



Cover Story

Purina will win points toward catalog merchandise. Since holders of these smart cards supply information about themselves, retailers and manufacturers will be able to build data bases on consumers, figuring out who the best customers are.

Of course, all the sharp marketing in the world won't make much difference if a product doesn't appeal to its audience. Many companies are finding that one of the most effective ways to target specific groups of consumers is with the products themselves. Using the strength of existing brand names, they're tweaking core products into a wide array of line extensions aimed to please ever-narrower tastes or needs. From 1947 to 1984, for example, P&G sold only one type of Tide. Now, there are four additional varieties of the detergent, including Liquid Tide and Tide with Bleach. Downy fabric softener spent its first 23 years alone. Since 1984, however, it has gotten three siblings.

As manufacturers refine their consumer marketing techniques, they are also starting to cooperate much more closely with retailers. "Today, to get to the consumer, you have to do it together," says Joseph W. Masse, vice-president for sales at Warner-Lambert's Consumer Health Products Group. Besides focusing their efforts on precise target groups of consumers, packaged-goods companies are tailoring their marketing to an individual retailer's needs. As P&G Chief Executive John G. Smale recently told company managers: "The major retailers around the world are moving toward cooperative alliances with a select few suppliers. We must be one of them."

SMELVING FEES. In mass marketing's heyday, the retailer was a passive conduit. The manufacturer could dictate the amount and type of shelf space and display a product received in a store, because the powerful brands and powerful advertising pulled consumers in. But as the market has fragmented, the manufacturers' power over retailers has waned. These days, the stores dictate how much or how little space they'll give a product, and they're demanding a

growing list of fees and discounts to do so (BW—Aug. 7). Such trade promotions ate up 44% of a typical marketing budget in 1988, up from 34% in 1980, according to Donnelly Marketing, and they're hurting margins, too. Now, partly in an effort to break out of this trade-promotion trap, P&G is starting to micro market to its retailers, too.

When it comes to trade relations, perhaps no company had more to learn than high-handed P&G. A few years ago, Jack Shewmaker, then president of Wal-Mart Stores Inc., wanted to talk to P&G's Smale. After several fruitless phone

P&G now receives daily data by satellite on Wal-Mart's Pampers sales and forecasts and ships orders automatically. As a result, Wal-Mart can maintain smaller inventories and still cut the number of times it runs out of Pampers. And P&G has increased its proportion of on-time deliveries to 99.6% from 94%. "P&G has gone from a vendor that was maybe the least desirable to deal with to the most desirable to deal with," says the now retired Shewmaker.

The results have been astonishing. Procter's volume at Wal-Mart grew by more than 40%, or by more than \$200 million, in the fiscal year ended June 30. P&G's approach to Wal-Mart seems likely to spread to its relations with other retailers as the company scrapes its separate sales efforts at each division in favor of teams that handle top retail accounts. P&G's new attitude toward the trade is "a 180-degree turn around from five or seven years ago," says a merchandise manager at a major supermarket chain.

Other manufacturers also hope that tailoring their marketing plans to the needs of individual retailers will re-

duce the pressure for ever-greater trade promotions. Warner-Lambert, for example, has been sending more experienced marketing managers out from headquarters into the field, where they work closely with retailers. The marketers have been showing retailers how to boost sales by playing up Listerine's endorsement by the American Dental Assn. as a plaque fighter. As a result, Warner-Lambert, which used to give retailers trade allowances of 28% to 30% off the wholesale price of Listerine, now gives up only half as much.

For all its efforts, P&G is still often slammed for its too-cautious, by-the-book ways. "P&G is always P&G," says Rich George, a former P&G marketer. "You might be able to tip the boulder a bit, but it's still a boulder." Nevertheless, P&G is clearly questioning some of its fundamental principles. And if it comes up with enough innovative answers, it may well become the wizard of packaged goods again.

By Zachary Schiller in Cincinnati



THE FAMILY CREST: P&G HAS SIX CAMPAIGNS FOR DIFFERENT MARKETS

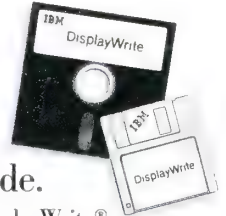
calls, an irate Shewmaker gave up. P&G had snubbed a huge retailer. And why did Shewmaker want Smale? Just to tell him that Wal-Mart wanted to give P&G an award as vendor of the year.

If P&G didn't exactly deserve the award then, it may now. In the past year, P&G has moved a dozen officials to Arkansas to develop a joint strategy with the big Bentonville-based retailer. Can both companies use the same number to identify an item, eliminating a need to reticket each shipping container when it arrives? Can P&G adapt its up-and-down pricing to Wal-Mart's everyday-low-price approach?

'P&G has gone from a vendor that was maybe the least desirable to deal with to the most desirable'

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IT AIN'T GLAMOROUS, BUT THE MONEY SURE IS GOOD

Ogden racks up \$1.1 billion in sales for operating the likes of waste plants and sports arenas

At a recent dinner, Ogden Corp. Chairman Ralph E. Ablon found himself seated between a top executive from IBM and an officer of Newmont Mining Corp. The two fellows had no idea what Ablon's company did. Imagine their surprise, then, at learning that Ogden is not only a subcontractor for IBM but also runs gold-mining camps in Nevada for Newmont. Ablon wasn't insulted in the least. He knows that doing other people's routine chores can be a profitable business.

In the past eight years, Ablon has transformed what was a miniconglomerate engaged in such varied businesses as Italian food and shipbuilding into a pure service company with \$1.1 billion in sales. Ogden provides maintenance, housekeeping, security, food, and parking for office buildings, stadiums, sports arenas, and manufacturers. The company fuels airplanes and handles baggage at 90 airports around the world. And it finances, builds, and operates refuse-incineration plants.

Ogden's metamorphosis did not come easily. Back in 1981, Ablon, something of a futurist, spent a lot of time pondering, well, the future. He saw a service-based

economy emerging and decided to get Ogden in step with the times. What's more, Ablon, then 65, didn't have much to lose—or prove. He had run Ogden since 1962, seven years after the company took over Luria Brothers Inc., the ferrous scrap processor of which he was president. Says Ablon, whose 1.4% stake in Ogden is worth about \$18 million: "I didn't need the money and was willing to play roulette with other people's jobs."

PACKAGE DEALS. By 1987, after a flurry of restructuring, just 5% of operating income came from businesses owned in 1981. The "new" Ogden was built around the 1982 purchase of Allied Maintenance Corp. Allied got its start cleaning kerosene lamps in New York's Penn Station in the late 19th century, and Ogden Allied Services Corp. still provides janitorial and maintenance services there. More recent additions to its list include cleaning the Phillips Petroleum Co. headquarters building in Bartlesville, Okla., and managing a day-care center at Prudential Insurance Co.'s New Jersey headquarters.

Ogden's restructuring took its toll on profits. In 1985, it lost \$21.3 million, but a turnaround was already in the making.

Two years earlier, Ogden had prepared to enter the business of converting waste into energy by purchasing the U.S. rights to an efficient incineration technology developed in West Germany. The company now operates 11 waste-to-energy plants, has nine under construction, and has received contracts for six more. Those operations are the engine behind Ogden's revived profits, which rose 21% last year, to \$57.8 million.

The company's trash business is being driven by a worsening shortage of space for landfills, but Ogden has plenty of tough competition. Wheelabrator Technologies, Foster Wheeler, and Westinghouse Electric are just the biggest of scores of companies bidding to build or run incinerators. In an industry plagued by cost overruns, missed deadlines, and operating problems, Ogden's strong suit is its growing reputation for reliability. "Their efficiency has been very good," says Randall Franke, a commissioner in Marion County, Ore., the site of one of Ogden's plants. "There has been no unplanned downtime."

Competitors and municipal officials also say that Ogden is a particularly aggressive bidder on resource recovery

OGDEN: MASTER OF THE NITTY-GRITTY

OPERATING SERVICES Accounts for 51% of estimated 1989 pretax profit of \$94.6 million Provides housekeeping and maintenance for buildings and plants, food service and cleanup at sports arenas, warehouse management, refueling and baggage handling at airports

WASTE-TO-ENERGY 34% of pretax income Finances, designs, builds, operates waste-to-energy plants

FINANCIAL SERVICES 13% of pretax income Arranges financing for construction of waste plants and arenas

WASTE 2% of pretax income Cleans up hazardous materials

DAI LURIA BROTHERS II



projects. The company typically builds the plant at cost and makes money off lucrative, long-term operations contracts, which can extend up to 25 years. Municipalities find the Ogden formula appealing. Of 42 competitively bid waste-to-energy projects in the past five years, Ogden has won 22.

Ogden's interest in turning waste into profits is wide-ranging. The company has moved into asbestos removal and has been testing mobile units in Alaska and California that burn up PCBs and other toxic substances. However, the hazardous waste cleanup business is growing more slowly than Ogden anticipated. "Companies with toxic waste problems are disinclined to spend money, and they will find ways to avoid it," Ablon says.

IN THE ROAD. So, Ablon is taking Ogden's turnkey strategy on the road. He wants to leverage Ogden's expertise in building, financing, and operating resource recovery plants by expanding into sports arenas. Ogden has long cooked hot dogs and soda as part of its food service contracts at 70 stadiums, including the Superdome in New Orleans. Last year, Ogden won a 25-year contract to manage the Great Western Forum in Los Angeles. The contract even includes booking artists, such as the Rolling Stones, Neil Diamond, and Michael Jackson. Ogden won the contract after extending a \$25 million loan for working capital. And it recently won its first contract to finance, build, and manage a sports arena—an \$85 million, 10,000-seat facility for Anaheim, Calif.

Ablon's vision has yet to be fulfilled. Although Wall Street analysts project earnings growth of about 25% a year during the next five years, Ogden's return on equity is only now getting back to the 14% or better it earned before the restructuring. And the company's stock, down 32½% recently, is up only 11% so far this year. That's roughly half the increase for the Standard & Poor's 500-stock index. Part of the problem was an expectedly small 5% earnings increase in the second quarter because of a slowdown in investment tax credits generated by new plants. Ablon says earnings for the year will match Wall Street's estimates. Anyway, he says, Ogden's strategy is fashioned for the long term. He has a strong case. After all, at the end of 1988, one-third of the top 60 metropolitan areas were planning to build stadiums or sports arenas, according to Robert Baade, an economics professor at Lake Forest College in Illinois. But Ralph Ablon isn't stopping there. What's next? His list of possibilities includes rising homes, alcohol-rehabilitation centers, perhaps even prisons. Or just about anything nobody else wants to do.

By Monica Roman in New York

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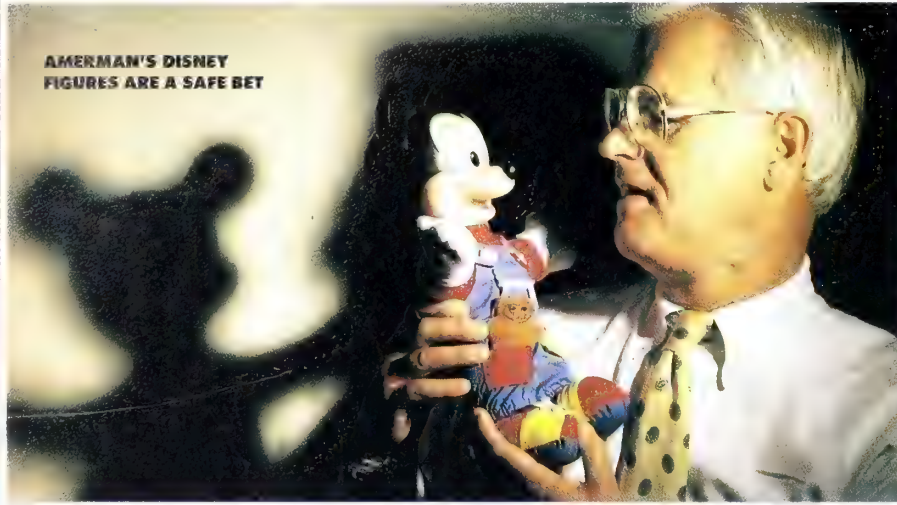


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MATTEL IS PUTTING ITS DOLLHOUSE IN ORDER

Macho toys are out—cost and inventory controls are in



AMERMAN'S DISNEY FIGURES ARE A SAFE BET

John W. Amerman, chairman of toy-maker Mattel Inc., has a taste for action. When he's not pumping iron or venturing to Australia's Great Barrier Reef for a little scuba diving, Amerman can often be found knocking golf balls into the Pacific Ocean from the rugged cliffs near his home in Palos Verdes Estates, Calif. Back at Mattel, however, the lure of action and adventure has taken a backseat to something decidedly less macho: Barbie.

The perky queen of toyland has made a tough job easier for Amerman, who took over Mattel's top spot two years ago. Weighed down by debt and such unwanted action toys as Masters of the Universe and Captain Power, Mattel lost a total of \$121.5 million in 1986 and 1987. While sales of the venerable Barbie kept the company going, Amerman was able to rework Mattel. He cut headquarters payroll by 22% and closed 10 toy plants worldwide. As a result, Mattel could earn as much as \$74 million on sales of \$1.2 billion this year, says analyst Laurie A. Lively of Oppenheimer & Co.

Now, Amerman must prove he can add consistency. Like any toy company, Mattel needs a steady flow of new products to sate children's fickle tastes. But

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his time, Amerman is preaching caution. While Mattel has some bright new prospects, it is limiting marketing costs and letting demand pull shipments instead of flooding stores with potential lockbusters. Amerman is seeking a balance: He wants to keep kids excited while moderating wild profit swings.

OVERENTHUSIASTIC. Other attempts to branch out have failed miserably. Masters of the Universe, a set of muscular action figures, shot to \$400 million in sales in three years, boosted by a huge marketing budget that included an associated Saturday morning cartoon series. But when kids turned the channel, sales plummeted, sticking Mattel with a pipeline full of toys. Mattel followed with Captain Power, a complicated electronic toy that responded to prompts in a cartoon's sound track to "interact" with figures on the screen. Again kids lost interest, and Mattel was left with \$20 million in unsold product. "We were overenthusiastic about Captain Power," admits Mattel President Robert Sansone.

Thank goodness for Barbie and Ken. Sales of the Barbie line have grown 2.5% annually since 1985 and accounted for 45% of Mattel's total revenue last year. Now, Amerman is nurturing Barbie like a daughter. Mattel has added Teresa, an Hispanic friend, and Christie



POWER GLOVE: AN \$80 NINTENDO ADD-ON

and Steven, a black couple. This year, the company will sell a Beach Blast Barbie, Animal Lovin' Barbie, and even a '57-Chevy-driving Barbie, in hopes of boosting the line's sales by 25%.

Adding new products is the next challenge. That's where Amerman hopes his caution will pay off. Last summer, Mattel began to license proven Walt Disney characters for a line of preschool toys. Products such as a Learn-to-Dress Mickey Mouse doll added \$55 million to sales last year, a figure expected to double in 1989. The Power Glove, Amerman's next big bet, is less certain. But his approach

shows how Mattel has changed. An \$80 add-on to the popular Nintendo line of video games, the glove allows kids to eschew the joystick and control the games with the wave of a hand. Although Mattel already has \$100 million in orders for the glove, it plans to ship just \$40 million worth to avoid getting stuck with returned, unsold toys. "And this time, if a product doesn't sell," Amerman says, "we'll just cut it out."

Mattel can't afford to do much else. Long-term debt, much of it high-yield from a previous restructuring, makes up 55% of total capital. And Mattel needs time to rebuild its international division, which provides almost half of the company's sales but slipped 9% last year because of poor inventory control and lackluster marketing. Moreover, although Mattel's stock recently hit a six-year high of 18½, some analysts fear it's undervalued by as much as 40%, leading to takeover speculation.

So far, however, Amerman seems to have found the right balance between new playthings and old favorites. Says Michael Goldstein, vice-chairman of Toys 'R' Us Inc.: "Mattel has finally gotten its act together." If Amerman can find the right supporting cast for Barbie, Mattel should become a bankable hit.

By Patrick E. Cole in Hawthorne, Calif.

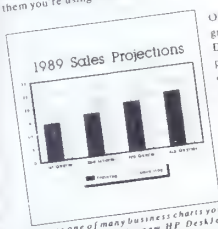
But they keep looking at the evidence.

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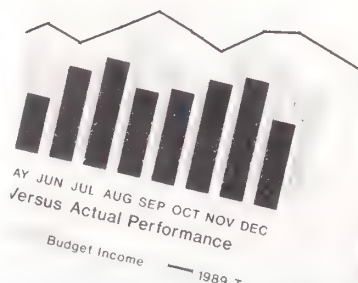
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WHY NATURAL GAS IS BURNING BRIGHTER

Decontrol—and low prices—have heated up the industry's sales

Edward J. Sondey recalls what it was like to be a captive customer. For years, the vice-president for gas supply at Brooklyn Union Gas Co. bought most of his gas under long-term contract from a single pipeline supplier—and paid that company's price. But a gradual deregulation of the gas transmission industry now allows him to bargain with a slew of suppliers. Sondey even buys on the volatile spot market. With energy prices weak and supplies abundant, he has cut his costs by 25% and is promoting new uses for gas, such as fueling buses. Deregulation "changes our business dramatically," he remarks. "The potential is enormous."

If that's true for customers, it's starting to look doubly so for gas producers and pipeline companies. The same forces that benefit Sondey have battered other sectors of the \$68 billion industry for most of this decade, producing seas of red ink. Part of the problem is that deregulation blurred the lines between producers, pipelines, and local distributors. Each has moved into the others' business, causing market turmoil

But now, the passage of time has started to wring out some of the resulting distortions, and Wall Street senses an industry rebound. Since April, stock prices of the major independent producers have jumped by 29% (table), outpacing a 15% rise in the Dow Jones industrial average. Stocks of the major gas-pipeline companies have risen 32%. On July 27, President George Bush gave the industry an additional boost by signing

legislation that removes all federal price controls on gas by 1993.

Prices will probably rise as a result. DRI/McGraw-Hill thinks that retail customers, who paid an average of \$3.90 per thousand cubic feet for natural gas last year, may pay \$4.20 next year and \$4.70 in 1992—close to the \$4.89 peak price they paid in 1984, the last year most gas sold under expensive, long-term contract. Although this would be a 21% increase, experts think the market probably will accept it.

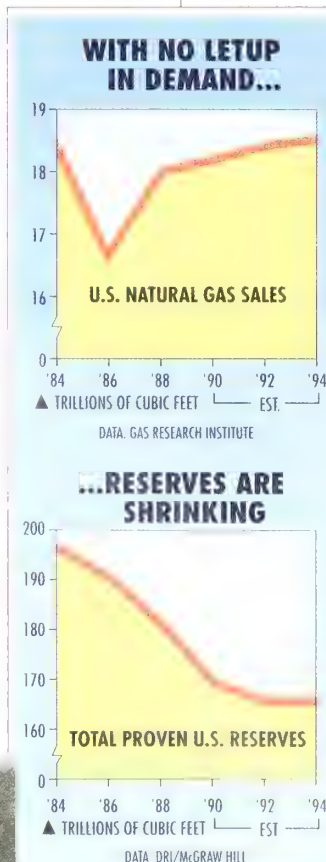
For one thing, in many major markets gas still sells

for 30% less than fuel oil, its most direct competitor. In addition, gas supplies are slowly tightening. Since yearend 1986, U.S. demand has grown by 8%, while reserves have dropped by 5%. Reserves won't be rebuilt quickly. Oil and gas drilling is at a 25-year low, with some 870 rigs operating this summer, down from almost 4,000 in 1981. At this rate, the industry is replacing only half its output with new reserves, says First Boston Corp. analyst John E. Olson.

In the meantime, demand is gathering momentum, partly because of rapidly deteriorating air quality in many places in the U.S. Texas recently passed laws to fine electric utilities for burning oil instead of gas, which is cleaner because it produces fewer toxic emissions. Both Texas and Arizona are forcing public bus fleets to convert to cleaner fuels—either methanol or natural gas. And California has approved a plan to require 40% of cars to use fuels other than gasoline and to slap strict new controls on oil-burning industries and utilities.

'NEW LIFE.' Indeed, deregulation has lifted a decade-old prohibition, enacted when gas was scarce in the late 1970s, against using the fuel to fire electric power plants. Gas claims only 11% of that market. But nearly 50% of the new power facilities planned in the U.S. will run on gas, says the Edison Electric Institute, a utility industry group. And gas usage will further be spurred by Bush's proposed environmental program, which calls for cities, industries, and utilities to start switching to cleaner-burning fuels in cars and boilers by 1992. It "reads like the Gas Promotion Act of 1989," says David N. Fleischer, an analyst with Prudential-Bache Securities Inc. "It gives the industry new life."

True, the experts have been mis-



taken before. Last winter, they expected a natural-gas rebound. Instead, prices collapsed amid unseasonably warm January weather. Since then, there has been some price recovery. But gas's current price of \$1.55 per thousand cubic feet at the wellhead is the equivalent of oil costing only \$9.30 a barrel.

Thus, most major producers aren't risking big exploration expenditures. Instead, they are taking a safer, quicker route and buying proven reserves. In 1988, Amoco Corp. spent \$5.1 billion for Canada's Dome Petroleum and Tenneco's New Mexico gas properties. Chevron, Exxon, and big independents such as Mesa Petroleum and Amax also have laid out billions for reserves. And in June, Amerada Hess Corp. stunned the industry by buying Transco Energy Co.'s Gulf of Mexico reserves for \$911 million, some 25% more than analysts figured they were worth. The pipelines also are acquisition-minded. Arkla, Transco, and Consolidated Natural Gas have been snapping up competitors' pipelines this year. And in April, Panhandle Eastern Corp. paid \$2.6 billion for Texas Eastern Corp., the big transmission company that serves East Coast markets.

Such purchases could be a bit premature. Gas still competes head-on with oil in huge industrial markets such as the Northeast, and the mere threat of a free

30-year gas purchase contracts they signed more than a decade ago. Their financial plight worsened when the Federal Energy Regulatory Commission (FERC) decided to let customers buy gas directly from producers and skip the pipelines, which were ordered to transport gas they didn't own for an approved fee. By 1988, 75% of all gas used by utilities or big industrial customers was bought on the spot market or

There's need for such expansion. At present, while the Midwest has excess gas-transmission capacity, there's a shortage in the Northeast, where FERC has approved 18 applications for the construction of new lines. And in gas-starved Southern California, as many as six companies are lobbying to build new pipelines—from Canada in a couple of cases. They could reap a bonanza. California produces just one-third of its gas

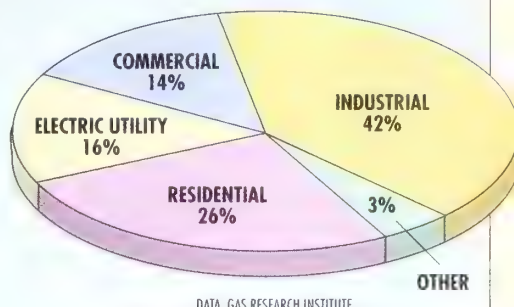
HOT STOCKS AND A DIVERSE MARKET

SHARE PRICES FOR MAJOR INDEPENDENT GAS PRODUCERS

	Mar. 31, 1989	Aug. 11, 1989	Percent increase
ANADARKO PETROLEUM	\$25.75	\$34.38	34%
ENSERCH	19.50	23.88	23
MAPCO	31.25	39.00	25
MITCHELL ENERGY & DEVELOPMENT	13.75	17.88	30
TEJAS OIL & GAS	18.75	25.13	34
UNION GAS	12.63	16.00	27
DJIA	2293.62	2638.99	15

DATA: FIRST BOSTON CORP.

THE MARKETS FOR GAS



from producers—not from the pipelines.

Now, the transmission companies are experimenting with new marketing subsidiaries—companies that line up buyers and sellers for third-party gas and charge a fee for the service. "We want to get into the part of the business where rewards are higher," says Kenneth L. Lay, chairman of Enron Corp., which sells 15% of the gas it transports through a marketing subsidiary.

Gas producers are fighting back, too.

Forced to accept as little as 10¢ on the dollar for gas-supply contracts they signed in the high-price days of the late 1970s, hundreds of small independents dropped out of the business. Major producers' margins also were squeezed. Then, in 1987, Mobil Oil Co., among others, set up a separate gas company to sell directly to big gas customers. In the past 18 months, Shell Oil Co.'s gas company has signed up five utilities and two large industrial customers on long-term contracts. Result: Its direct sales grew 40%, to \$293 million, in 1989's first half.

Indeed, Amoco, Phillips, Occidental, and Mobil now have gas reserves as large as their oil reserves, according to John S. Herold Inc., an industry consultant. Amoco is just one of several big producers spending heavily to improve their gas distribution systems. The objective: to be able to supply buyers from any Amoco gas field or with gas swapped with other producers—thus lessening the risk of having to curtail sales if demand suddenly booms.

needs. And demand there could grow 28% in the 1990s, says the California Energy Commission, and reach 5.9 billion cubic feet daily—five times the state's anticipated production by then.

FIDGETY BUYERS. Some gas customers are starting to worry about the long-range implications of deregulation. The top five pipelines control 60% of the U.S. gas business today, up from just 47% in 1987, according to Arthur Andersen & Co. This could give them unprecedented leverage in dictating prices and contract terms if supplies tighten.

But such nervousness may reflect a fear of change more than anything else. Since customers will have more potential gas suppliers, it's doubtful that one or two big pipelines can ever regain the clout they once had, analysts say. Even if U.S. gas supplies fall short, there are vast reserves in Canada to be tapped. Both customers and suppliers also know more about juggling between alternate fuels to maximize efficiency. Hundreds of the largest industrial customers, which consume about 20% of the gas in the U.S. annually, now have the flexibility to turn back to oil if necessary.

Brooklyn Union's Sondey, for one, says he's willing to trade potential inconvenience for his new freedom in gas purchasing. And Arlon R. Tussing, president of Arta Inc., a Seattle consulting firm, thinks most big customers will agree. After living with the price swings of the past decade, he says, "they know that the gas market is better than regulators at sorting things out."

By Mark Ivey in Houston, with Ronald Grover in Los Angeles and bureau reports

fall in oil prices could keep gas prices from rising rapidly for the next year. Beyond that, coal is a formidable competitor in the utility market, where it accounts for 57% of electricity generation and where changing boilers to burn gas isn't easy. "Coal and oil aren't going to roll over," says James J. Newcomb, Cambridge Energy Research Associates' natural gas coordinator.

Still, the outlook for gas is at least more upbeat than it has been—and just in time for the pipeline companies. In the past five years, they have been forced to buy out of some \$8 billion in high-price,

THE MARVIN DAVIS MYSTIQUE: LESS THAN MEETS THE EYE?

His dealmaking career has been more miss than hit—but he hopes to get lucky with UAL

When Marvin Davis was a big oil wildcatter a decade ago, his idea of a good time was a leisurely lunch at his regular table at Denver's sedate Brown Palace Hotel. But since the mid-1980s, Davis, 63, has been parking his private 727 jet in Los Angeles, where he entertains at the \$22 million mansion he bought from country singer Kenny Rogers and makes the scene at superagent Irving "Swifty" Lazar's annual Academy Awards bash.

Despite the change in venue and lifestyle, Davis is still a wildcatter at heart, always on the prowl for a new deal. Instead of looking for oil, he has put money in a bewildering hodgepodge of ventures (table). And he has become a takeover player, with a string of pursuits of such companies as CBS, Resorts International, and, in June, NWA. Although he usually walks away with a nice profit, nearly all of his targets have eluded his grasp. Now, he is making his biggest play ever: a buyout of UAL Corp. On Aug. 16, Davis hiked his offer to \$6.2 billion and said he might seek a shareholder vote to remove the board.

HUNCH AND IMPULSE. Wall Street tends to regard Davis as just another in-and-out trader aiming to make enough noise to move the stock up a few points. But those close to him pledge that his bid for United Airlines is different. Now, they say, he wants to build an empire à la Kohlberg Kravis Roberts & Co. "We intend to move from dealmaking to being industrialists," says John A. Davis, his son and close associate.

There is plenty of room for doubt about whether Davis, who declined to be interviewed, can pull it off. His track record as a manager is far from inspiring. And although he has virtually abandoned the oil and gas business, he left behind some very irate investors and former associates. Davis is now the target of several lawsuits that attack not only his competence but his integrity. If they go to trial, the suits could produce embarrassing revelations that may derail his empire-building aspirations.

So far, though, they have had little

apparent impact on his dealmaking. His business style hasn't changed much from his Denver days. He works on the 29th floor of a Century City building, but he still plots deals with a small, close-knit, free-form cadre of advisers. They include longtime aide Gerald S. Gray, former Denver oil executive James E. Kneser, and Davis' two sons, 34-year-old John and 25-year-old Gregg.

Often, his deals stem from simple hunch and impulse. Because Gregg was a regular patron at Sports Club, Davis became intrigued by the chain of yuppie health clubs, half of which he acquired for \$35 million last summer. In late 1986, he bought the famed Beverly Hills Hotel, partly because he had honeymooned there with his wife, Barbara. Although he promised a \$40 million face-lift, he unloaded the hotel a year later to the Sultan of Brunei for a \$65 million profit. Davis recently has been looking at airline, hotel, and gaming companies, but some associates admit that there is little, if any, underlying logic to his acquisition binge.

Typically, Davis is involved only in getting a deal launched. Execution and managing the properties is left to others. "He's not the kind of guy who kicks the tires," says his long-standing real estate partner Myron "Micky" Miller.

Davis likes to limit his equity exposure by bringing in partners. In Denver, he would own

only a fraction of an oil well, raising most of the stake from other investors. Last March, he recruited Prudential Insurance Co. to help him pull off the \$635 million acquisition of Spectradyn Inc., a provider of pay-per-view cable TV movies to hotels. Although he assumed a share of the \$575 million in debt, Davis put up only \$30 million in cash.

Davis does real estate deals through Miller-Klutznick-Davis-Gray Co., a part-



ership he controls. MKDG has a bulky portfolio of office buildings, resorts, and entertainment properties valued at as much as \$1.6 billion. It also has deals with Mobil Oil Corp. and others to finance buildings.

Those who question Davis' ability to run a KKR-type empire point to his ownership of Twentieth Century-Fox Film Corp., which he and commodities trader Marc Rich, now a fugitive, acquired in 1981 for \$725 million. He loaded up the studio with \$650 million in debt to help pay back the \$550 million loan he and Rich took out to buy Fox. Atypically, Davis became personally involved. He helped choose pictures and stars, and Fox churned out a string of such box-office flops as *Rhinestone* and *Unfaithfully Yours*. By 1985, Fox had rolled up \$200 million in losses. With the value and return from his Denver oil, real estate, and banking holdings sagging, Davis lacked the cash to keep financing Fox's movie budget. "I wouldn't say Marvin was broke," said one business partner. "But he sure as hell was hurting." Davis sold the studio in 1985 to

THE ECLECTIC KINGDOM OF MARVIN DAVIS

BUILDINGS A stake in about \$750 million in Los Angeles, Boston, Chicago, Denver, and Reston, Va. Owned in joint ship with developers Miller-Klutznick-Ray Co., which Davis controls, and other partners

VIDE INC. Pay-per-view movies for homes, bought with Prudential Insurance Co. (owner) for \$635 million in March; 8 revenues of \$110 million

BEACH CO. Four golf courses, two luxury, 80 townhouses, beach and tennis restaurants and "17-mile drive" tourist value about \$500 million, owned by Klutznick

KING CO. Operates ski lifts at Aspen, Vail, and Buttermilk mountains in Colorado; is building a 92-room luxury hotel; worth \$250 million; owned with Miller-Klutznick and the Henry Crown family

ENTERTAINMENT CO. Producing nine movies; budgeted at \$70 million; also owns majority of ABC TV affiliates in Midland, Texas, Springfield, Mo., and NBC affiliate in Redding, Calif.; run by son John A. Davis; worth about \$75 million

CLUB CO. Operates eight luxury health clubs in Southern California, owned 50/50 by Klutznick and Sports Connection Co.; worth \$125 million

WELLS CO. About 12 wells, possibly worth \$5 million

DELICATESSEN CO. A New York-style delicatessen in West Hills, worth about \$10 million

DATA: BW

media baron Rupert Murdoch. He walked away with \$325 million in cash and some valuable real estate, such as the Pebble Beach golf resort.

Davis' plans to build a Colorado banking chain were aborted when Metro National Bank, which he and his father had started in 1964, fell deeply into the red in the mid-1980s, in part because of poor management, observers say. Davis recently unloaded the bank, reportedly by agreeing to absorb \$10 million in bad loans. His loss on the banking venture, according to some sources, could total up to \$40 million.

An even worse problem for Davis might be the fallout from lawsuits filed by a subsidiary of Aetna Life & Casualty, a longtime real estate partner, and John A. Masek, a former close business associate. The suits raise serious questions about Davis' image as a highly successful wildcatter who produced handsome returns for such celebrity investors as Henry A. Kissinger, Gerald R. Ford, George Lucas, and Lucille Ball. Aetna, which put more than \$168 million in Davis oil properties, alleged in a 1985 suit filed in Denver that Davis "misrepresented" the wells' results. After an audit, Aetna found Davis' success ratios and returns on investment to be "far below the industry average."

Aetna and Masek claimed that Davis, in effect, stole money from his investors, sometimes through kickback deals with suppliers. A Masek complaint, filed in Houston last spring, detailed several schemes. The suit is based largely on sworn firsthand information from Rachael Herrera, a former Davis employee who audited oil wells. In a deposition, she estimated Davis' profits from the schemes at "possibly hundreds of millions of dollars." According to the suit, Davis hired inspection companies to perform an excessive number of tests on pipes, charging the costs to his investors. The inspection companies, in turn, would "discreetly" kick back "volume discount" checks to Davis, which were not credited to investors.

The Aetna case is expected to go to trial next year. Because it contains racketeering charges, observers expect that Aetna will attempt to prove that Davis' alleged misdeeds toward it were pervasive. Aetna may call as witnesses some Davis investors, many of whom were also unhappy with the results of their

well interests. Davis, in fact, earlier agreed to buy back the stakes of several investors, including George Lucas and Northwest Industries Inc., now a division of Farley Industries Inc. Coincidentally, the attorney involved with Northwest's negotiations with Davis, says a source, was Samuel K. Skinner, then a partner with Sidley & Austin in Chicago

and now Transportation Secretary. Skinner's current post puts him in a position to rule on any purchase of an airline by Davis.

In documents filed during his tender offer for NWA Inc., Davis claimed that "there is no merit" to the suits and that he intended "to vigorously defend against them."

Davis' legal problems seem to have followed him to Hollywood. In 1984, Davis hired Barry Diller to run the Fox movie studio and gave him a 25% stake in Fox. Diller soon threatened a lawsuit, arguing he hadn't known how serious the studio's finan-

cial condition was. Diller, who dropped his claim when Murdoch bought the studio, had no comment.

HOLLYWOOD HIT. Davis even fights with friends. He and television producer Aaron Spelling often traveled the same party circuit, and in 1986, Davis and his sons bought a 10.6% stake in Spelling's new entertainment company. Davis then told Spelling he intended to make the new company his own vehicle for buying a larger studio, which would effectively push Spelling out of the way. Spelling, who controlled the voting stock, refused. The next year, Davis unloaded his shares at an estimated \$5 million loss.

Davis and Spelling still socialize, though, and Hollywood generally seems enamored of the 300-pound former oilman. Minority investors in his recently opened Carnegie Deli in Beverly Hills include TV executive Leonard Goldberg and comedian Milton Berle.

Davis' heart, however, seems closer to Andrew Carnegie than the Carnegie Deli. Although published estimates putting his net worth at some \$1.6 billion seem substantially exaggerated, he still has at least several hundred million dollars to play with. Associates say he could swing a deal as high as \$15 billion. Still, the rosiness of Davis' future may hinge on how he deals with lingering questions about his past.

By Ron Grover in Los Angeles and Chris Welles in New York

Davis' associates swear that his bid for United isn't just another in-and-out trade. They say he wants to build a KKR-type dominion

PROGRAM TRADING'S UGLIEST WRINKLE

'Index frontrunning' manipulates stock indexes to profit on futures

When the stock market gyrates violently during the trading day, the blame tends to fall on Wall Street's No. 1 usual suspect, program trading—the rapid-fire buying and selling of “baskets” of stocks. But if program trading contributes to market volatility, that may be the least of its sins. A far more malevolent aspect of such trading has surfaced, involving pos-

That is done by trading in stocks that make up the indexes, either by acting for large institutional clients—frontrunning—or for the firm's own account—“self-frontrunning.” Both are unlike the more familiar, long-illegal type of frontrunning in which a broker places an order ahead of a large customer's, to profit from a resulting price change.

Until recently, index frontrunning has

up the price of the stocks as a way of ratcheting up the index—and the index futures that tend to move in tandem with it. While the stocks are still being bought (to keep the index, and futures from dipping), the futures are sold at a profit. Traders on the other side of the transaction do not realize the index has been pushed upward deliberately.

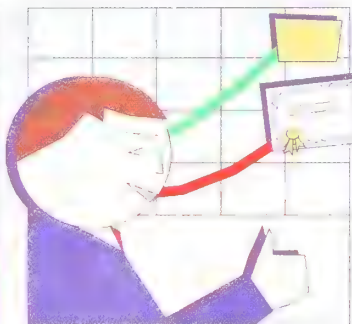
The frontrunner is now poised to dump his stocks. To offset losses if the stocks fall because of the hurried sales, the frontrunner sells a fresh batch of futures short. The stocks are then unloaded regardless of the price. The trader need not worry—he's hedged.

'CREAMED.' Another frontrunning strategy takes place after a broker receives an order to sell a basket of stocks, say the S&P 500. The broker buys the stocks from the client. Then he sells large quantities of S&P futures short. When he sells the stocks, he does not seek the best price but the worst, selling the bas-

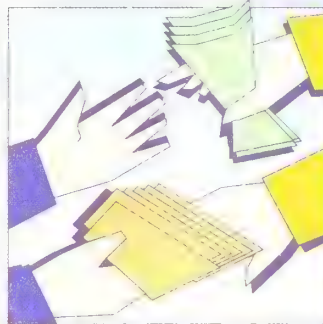
THE FOUR BASIC STEPS IN 'SELF-FRONTRUNNING'



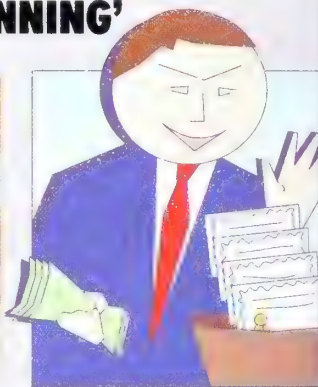
A trader buys futures contracts on the Standard & Poor's 500-stock index or the Major Market Index, a 20-stock average that tracks the Dow Jones industrials



He starts buying shares in stocks that underlie the index. This buying causes the index to start moving up, and the futures rise in concert



The trader sells all his futures contracts at a profit. He then sells additional futures contracts to offset any declines in his stock position



The trader dumps the stocks, so share prices drop. The declines are offset by his short position in the futures. The SEC has recently restricted self-frontrunning

sible manipulation of the Standard & Poor's 500-stock index and the Major Market Index, whose 20 stocks dominate the Dow Jones industrial average. Major program traders such as Morgan Stanley, Salomon Brothers, and Goldman Sachs are said to have caused movement in the indexes that has led to profits at the expense of smaller players.

Such “index frontrunning” stratagems would be worlds apart from the most common form of program trading—index arbitrage. Index arbs profit when the price of a stock-index futures contract strays far from the price of the underlying stocks. If futures are cheaper than stocks, for example, program traders profit from selling stocks and buying futures. But in index frontrunning, the aim is to make money in futures by manipulating the stock indexes.

been perfectly legal—for S&P futures, at least. Frontrunning has long been illegal within a single market and between the stock and the options markets. But trading in futures to profit from a stock-market foray was banned by the Securities & Exchange Commission only on July 19, in a little-noticed ruling. The SEC restricted frontrunning of the S&P 500 index. But regulators differ on whether MMI frontrunning is also banned.

NASTY BUSINESS. According to traders familiar with the practice, index frontrunning usually occurs on days when the market is trendless and no major news is expected. Perhaps the nastiest type is self-frontrunning (illustration). It goes like this: A program trader buys large quantities of index futures early in the day. He then buys baskets of stocks in the components of the index, bidding

ket over a short period to maximize profits from the futures.

Program traders at the Street's largest firms say that such index frontrunning is little more than a figment of the imagination of a few disgruntled traders. “If you tried that you might be able to move the market a bit, but if you tried to make money in the futures, you'd be creamed,” sniffs R. Steve Wunsch, a vice-president of Kidder, Peabody & Co. Despite the recent regulatory action, SEC and New York Stock Exchange officials say there is no proof that any such frontrunning actually takes place. “We don't know if there is a problem or what degree of a problem there is,” says Agnes Gautier, the NYSE vice-president for market surveillance.

Still, traders in the Chicago commodities pits insist that index frontrunning

as been rife and that the ranks of index frontrunners have included Morgan Stanley, Salomon Brothers, and Goldman Sachs. Morgan Stanley and Goldman Sachs deny that they have ever engaged in frontrunning. Louis Margolis, head of options and futures trading for Salomon Brothers, would not comment until he had examined the SEC ruling.

G MOVES. Whatever the identity of the players, one thing is certain—they would have to be big. Moving the indexes is a potentially risky strategy requiring the kind of huge capital available only to the major firms. Laszlo Birinyi, a former Salomon analyst who now heads his own firm, estimates carefully placed orders for some \$1.5 million in stocks can move the Dow Jones Industrials by one point. The program trader feels that figure is a bit low, but it seems a big move in the market could be engineered. "When you throw your weight into a small time dimension, you cannot help but push the market," asserts Victor Sperandio, general partner of Hugo Securities Co.

Sperandio insists that index frontrunning is no fantasy. "I'd be willing to bet you my money that it happens," he declares. Gerald Beirne, a broker with Thomson McKinnon Securities Inc. in New York who has waged a campaign to ban frontrunning, asserts that "frontrunning is one of the major reasons the market is so volatile."

While the regulators are uncertain that frontrunning exists, they have begun to act against it anyway. They have approved an agreement between the NYSE, Chicago Mercantile Exchange, and New York Futures Exchange that defines and prohibits index frontrunning. The agreement restricts self-frontrunning—but in less than unequivocal language, observing that "execution of a transaction in one market to take advantage of such

person's imminent transaction in a related market may be considered manipulative activity." Commenting on a self-frontrunning scenario outlined by Beirne, the SEC said that while the possibility of self-frontrunning is "of serious concern to the Commission . . . the widespread existence of such abuses is not as evident or as certain" as Beirne feels they are.

Critics contend the rule's language on self-frontrunning "may be" manipulative leaves open the possibility that such activity may continue under the guise of legitimate trading. And the SEC action has an even more gaping loop-

Some deny that the practice exists. Others say it's pervasive. The SEC isn't sure, but it's acting anyway

hole. Since the Chicago Board of Trade, where the MMI futures are traded, was not a party to the agreement, frontrunning between MMI futures and the underlying stocks is not prohibited, according to Gautier and Mark Fitterman, associate director of the SEC division of market regulation. They also note that, since CBOT was not involved in the agreement, surveillance would be hampered. However, Scott Early, CBOT general counsel, says the exchange has a two-year-old rule prohibiting intermarket frontrunning. The CBOT didn't assent to the Merc-NYSE agreement because it didn't guard against the prohibition of



BROKER BEIRNE BELIEVES AN SEC RULE LEAVES OPEN A LOOPHOLE

legitimate hedging activity, he says.

The confusion among regulators regarding the legal status of MMI frontrunning hardly bodes well for future limitation of the practice. The two-year-old rule notwithstanding, traders at the Chicago futures and options exchanges, including the CBOT, insist that index frontrunning has been commonplace. Intermarket frontrunning "has been going on since the indexes were created," complains the chairman of one Chicago-based brokerage firm who requested anonymity. Edward L. Barnett, an independent trader in the MMI on the CBOT, says savvy traders know when

they're being hit by frontrunning: "Everybody's in here selling, selling, selling, and they're the only ones buying," he says. "Then their program hits . . . and you've lost."

DRACONIAN MEASURES. Among the firms allegedly involved in self-frontrunning, Morgan Stanley is mentioned the most. "You can see them coming—they'll take a big position [in the futures] and 15 minutes later a big program [in the stocks] hits" on the NYSE, says one S&P 500 trader. One prominent program trader in New York observes that Morgan was a major operator of frontrunning programs in 1988 but has done less recently because of regulatory scrutiny.

Morgan officials would not comment beyond their denial. But in a May, 1988, submission to the NYSE on index frontrunning, Morgan Managing Director Anson M. Beard Jr. said that prohibitions on intermarket frontrunning "must be carefully and clearly constructed to avoid the prohibition of legitimate trading, hedging, and arbitrage activities."

Morgan specifically opposed a prohibition on "so-called 'self-frontrunning.'" Such a prohibition "represents an unwarranted expansion of traditional frontrunning concepts," said Beard.

If index frontrunning shifts to the MMI futures pits, it might be difficult to dislodge. One possible solution lies on Capitol Hill, where House telecommunications and finance subcommittee Chairman Edward J. Markey has introduced legislation that would beef up surveillance aimed at rooting out index frontrunning. At present, such trades are very difficult to police. "If I tell you that General Motors' pension fund is going to trade in the Major Market Index, and you make a trade based on that information, that's frontrunning, but it's very hard to detect," notes

Fred Grede, a CBOT vice-president.

Like insider trading, frontrunning seems so embedded in the system that the feds may be able to root it out only with draconian penalties. One trader observes that the government crackdown on the Chicago trading floors, though unrelated to index frontrunning, has already put a dent in the practice for a simple reason—fear. "A few years ago, [index frontrunners] thought, 'If I get caught, I'll probably get fined,'" he wryly observes. "Now they think, 'If I get caught, I'll go to jail.'"

By Gary Weiss in New York, with David Greising in Chicago

Underlying Strength.

Amidst the shifting currents of today's financial markets, Bank of America stands on a solid



Golden Gate Bridge
photographed by Ann Ross

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Bank of America

S&Ls ARE HOT PROPERTIES BY ACT OF CONGRESS

The bailout convinces investors there are good buys in thrifts

What a difference \$50 billion makes. A year ago, the thrift industry was an untouchable on Wall Street. Now that a massive federal bailout has been launched, investors are feverishly bidding up the shares of healthy thrifts, investment bankers are raising funds to buy the sick ones, and thrift experts are swamped by phone calls. "A lot of people who knew very little about thrifts are suddenly asking a lot of questions," says James J. McDermott Jr., director of research at brokers Keefe, Bruyette & Woods Inc.

As soon as it began to look as if Congress would cobble together a meaningful rescue package, investors started buying stocks in solid S&Ls (table) whose business successes have been obscured by the thrift crisis. And in the week of Aug. 6, after Congress sent the bill to a welcoming President Bush, Keefe's thrift index of 12 big S&Ls surged 10%. Analysts say thrifts are still attractive: Their price-to-earnings ratio is about 11 compared to 13.4 for the Standard & Poor's 500-stock index.

BUYOUT POOL. Investors are betting that the restructuring will lead to a leaner, more profitable industry. Resolution Trust Corp., the new agency supervising the bailout, wants to end the extravagant interest rates insolvent thrifts have offered depositors. This might start a trend that could lower the cost of funding for the entire thrift industry.

Congress' decision to let banks acquire S&Ls is also propelling thrift stocks higher. "For

healthy thrifts there has never been a viable pool of buyers. But with the bill signed, banks can buy immediately," says Bruce Harting of Salomon Brothers Inc. In some states, notably California, thrifts are the handiest way for out-of-state banks to break into a lucrative market.

The takeover talk isn't limited to healthy S&Ls. Almost every investment bank has a list of ailing S&Ls it thinks

the RTC will want to unload—and which it can turn around and resell within five years. Also, several firms are raising cash from pension funds and insurance companies for limited partnerships that would acquire ailing thrifts. "We could average an annual return of 20% to 25%," boasts Gerard Smith of Salomon, which has committed up to \$75 million of its own money to a thrift buyout pool.

These returns depend heavily on what terms the government will offer. No one expects anything like the hurried deals completed last year by the Federal Savings & Loan Insurance Corp. The new law bars tax incentives, which previously proved so alluring to investors. Congress is still howling over the \$900 million in tax benefits that financier Ronald O. Perelman received in December when he took over five failing Texas thrifts.

But Wall Street doesn't think the RTC can afford to drive too hard a bargain.

The agency took over 262 insolvent thrifts when it came into being. That could grow to 400 over the next several years as marginally profitable S&Ls fight to meet tougher capital standards in the bailout law. Unless the RTC can involve the private sector, the bailout could soon become unmanageable. Already, officials estimate the cost at \$166 billion, including interest the Treasury will pay on \$50 billion over 10 years. For the government, says John Oros of Goldman, Sachs & Co., "The one thing worse than doing bad deals is doing no deals."

Washington seems to agree. One indication of how deals might be treated came in July, when the Federal Deposit Insurance Corp. promised Banc One Corp. of Columbus, Ohio, that it would cover up to \$2 billion of sour loans that came with the 20 insolvent banks formerly owned by Dallas-based MCorp. This would make it the second-biggest U.S. bank bailout in history. Not a bad deal in Wall Street's view—and certainly not the last.

By John Meehan in New York, with Catherine Yan in Washington



WALL STREET LIKES HEALTHY THRIFTS...

Thrift	Share price		Gain Percent
	Mar. 31	Aug. 16	
GOLDEN WEST FINANCIAL	36	51	+42%
HOMEFED	31 $\frac{1}{8}$	43 $\frac{1}{8}$	39
GREAT WESTERN FINANCIAL	15 $\frac{3}{8}$	20	30
H. F. AHMANSON	16 $\frac{7}{8}$	22 $\frac{1}{2}$	33
GLENFED	19 $\frac{1}{4}$	25 $\frac{1}{8}$	31

DATA: SALOMON BROTHERS INC., BW

...AND THE HIGH ROLLERS GO FOR THE SICK ONES

WSPG INTERNATIONAL, headed by former Treasury Secretary William Simon, plans to raise up to \$1 billion to buy troubled thrifts

BLACKSTONE GROUP hopes to raise up to \$600 million with the help of Salomon Brothers and Old Stone, a Providence thrift holding company

OAK TREE CAPITAL, a Washington, D. C. investment bank, wants to raise \$100 million with the help of Capital Realty Investors

KEEFE, BRUYETTE & WOODS, a New York firm specializing in bank stocks, has raised a \$40 million thrift kitty

DATA: BW



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BY GENE G. MARCIAL

MAYTAG MAY BE BACK IN THE TAKEOVER CYCLE

Like the Maytag repairman in the television commercials, Maytag's stock has been sleepy of late. The arbitrageurs had expected a torrid takeover battle for Maytag last year. Instead, the home-appliance manufacturer made an acquisition of its own, buying Chicago Pacific, maker of Hoover vacuum cleaners. The hot arb money bailed out, and Maytag's stock is off about 25% from its 1988 high.

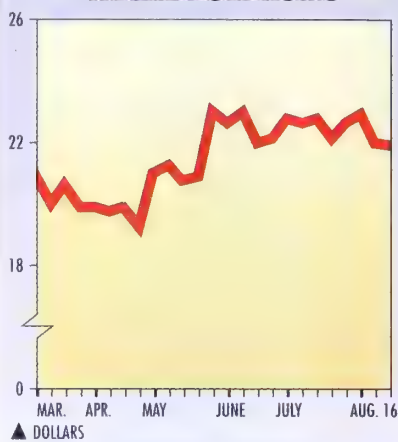
But several pros have been quietly accumulating Maytag shares recently. Despite the additional debt of \$500 million that Maytag took on in acquiring Chicago Pacific, plus an earnings dilution from the addition of 28 million shares, some takeover investors still think Maytag is way undervalued. They put the company's takeover worth at \$40 a share, nearly double the current price. With the consolidation that's going on in the \$11 billion home-appliance industry, "Maytag is certain to attract a takeover bid sooner than many expect," says one New York investment manager who has been buying shares.

One moneyed investor who has shown an extraordinary liking for Maytag is Chicago financier Lester Crown. He got 1.1 million shares as a result of the company's acquisition of Chicago Pacific, in which he held an 11% stake. Crown is the son of renowned investor Henry Crown, who built a reputation and fortune by investing in undervalued companies. Since April, Lester Crown has bought 4.4 million more Maytag shares in the open market, increasing his stake to 5.5% of the shares outstanding.

HEAVY HAND. Takeover speculation is expected to start spinning again because of recent whispers that Crown is about to start buying again. Already Maytag's largest shareholder, Crown was elected to the company's board of directors in February, and he isn't likely to remain a passive investor.

Crown has reaped huge profits from acquiring undervalued companies. In 1986, Crown acquired Rowenta, a small-appliance maker with sales of about \$300 million, for \$70 million. Not long after the purchase, Crown sold the company to SEB Group for \$500 million and the assumption

MAYTAG'S STOCK: IN THE DOLDRUMS



of Rowenta's debt load of \$85 million.

The fourth-largest appliance maker behind General Electric, Whirlpool, and Electrolux, Maytag has become a major global player with its acquisition of Chicago Pacific, whose popular Hoover floor-care products are made in Australia, Europe, and Britain. The betting now is that with Crown's connections in Europe, Maytag will attract suitors from among the European giants. Maytag and Crown both declined to comment.

THIS FUNERAL STOCK IS FULL OF LIFE

Wouldn't it be just wonderful to find a company whose fortunes are unaffected by changes in interest rates, inflation, economic growth, or jarring world events?

Investment manager Art Micheletti is certain that he has found such a stock: Service Corp. International, a Big Board-listed company that he's betting will double within the next 12 months. The stock has already risen to 21 from 16 in March.

Service is the nation's largest publicly owned operator of funeral parlors and cemeteries. "It's the kind of stock you can put in your safety-deposit box and feel certain that its value will rise steadily through the years," says Micheletti, investment director at Bailard Biehl & Kaiser, an investment firm in San Mateo, Calif. Service owns 505 funeral homes and 127 cemeteries.

"Earnings and revenues for the year should greatly exceed those of 1988," says Bert Boksen, an analyst at Raymond James & Associates. The compa-

ny has increased the number of funeral homes it owns by 11% and has raised prices by about 5%. Boksen expects earnings to return to their historically lofty levels, to \$1.45 a share this year and \$1.75 in 1990, up sharply from 56¢ last year.

The accelerated earnings and cash-flow growth are expected to come from the company's popular "pre-arranged funeral-service plan." Under this arrangement, the company sells clients an insurance policy to cover future funeral services. Some 80% of the policies are reinsured. "The pre-arranged funeral segment will be the driving force behind the company's long-term gains," says Boksen. So Service not only locks in future business, it makes money on the policies to boot.

WILL PHILLIPS BE A GUSHER?

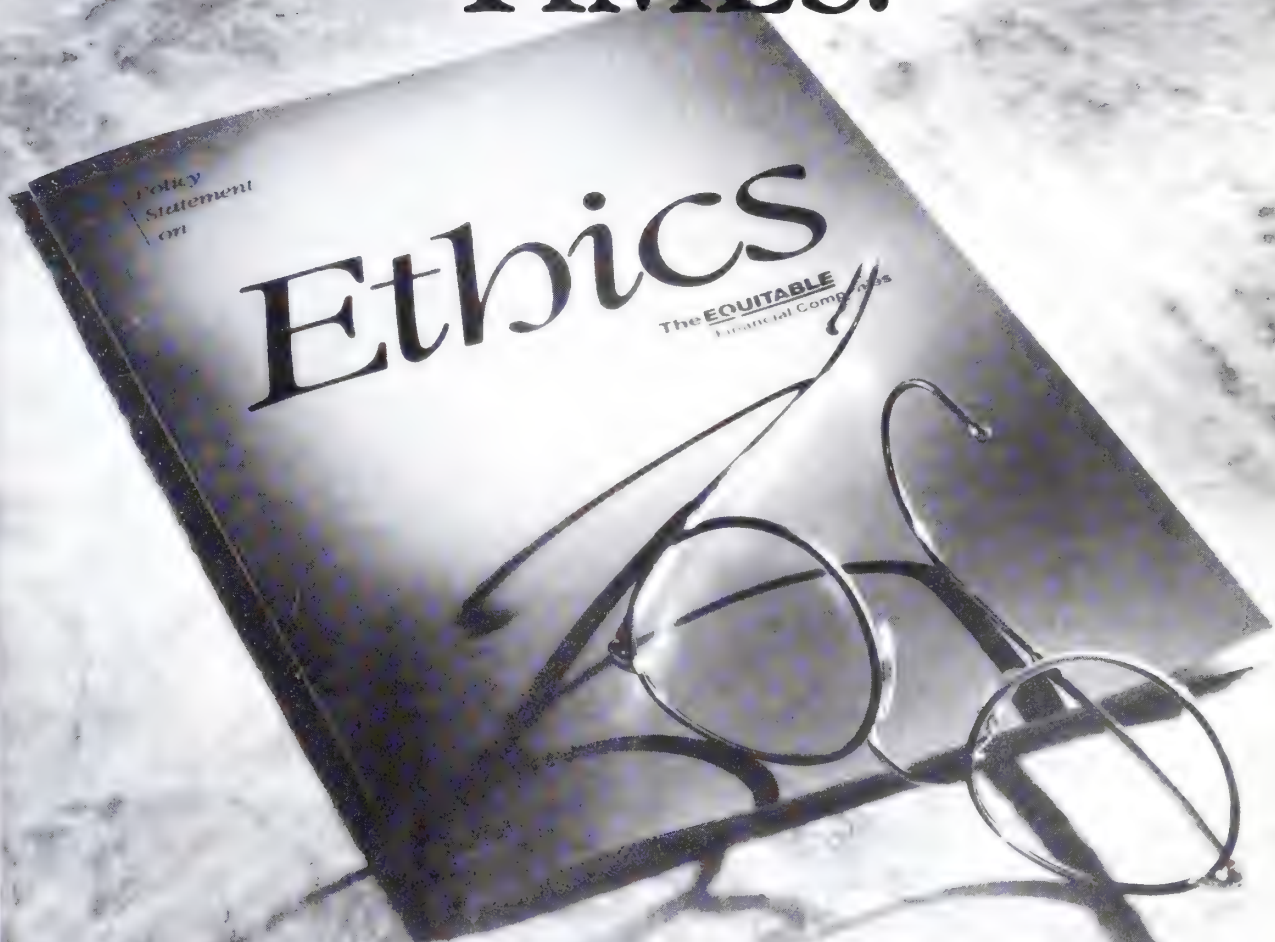
One of the first companies to tangle with and shake off corporate raider T. Boone Pickens Jr. in a costly takeover battle was Phillips Petroleum. Now, some savvy money managers have put it back on the buy list. "It's on the recovery trail and is one of the cheapest oil buys around, based on assets and strong cash flow," says Warren Greene, president of American Investors in Greenwich, Conn., who has been snapping up Phillips shares.

Most oil-industry analysts are still skeptical about Phillips. Yet the stock has rebounded from a low of 10 last year to 23. Says Greene: "With the worst of times behind it, the stock could double in price in the next 12 months."

The \$8 billion in debt that it piled up in 1986 to beat back Pickens is now down to nearly \$4 billion, he notes. And Greene sees big earnings gains ahead. He thinks that cash flow will hit \$2.5 billion, or \$8.50 a share, this year, which would enable the company to continue slashing its debt burden. He also expects a dividend increase.

What's spooking the mavens about Phillips? Greene says it's the chemical operations. Analysts see a downturn in chemical profits ahead, but Greene believes Phillips' division will do well. He puts the value of the chemical operations alone at \$14.50 a share. "That means investors are paying only \$8.50 for the company's oil business," says Greene. So Phillips is "a potential takeover stock for which you aren't yet paying a takeover premium."

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BLUMENTHAL BET
THAT SIZE
EQUALS SUCCESS

THIS IS HARDLY THE TURNING POINT UNISYS HAD IN MIND

An earnings plunge and a management exodus cast doubt on Mike Blumenthal's strategy

Last year, Unisys Corp. was riding high. Under control, finally, was the task of melding two large companies, Burroughs and Sperry, into one. And ahead, it seemed, lay big opportunities through further acquisitions to build Unisys up for the long-haul fight against IBM. No one was more optimistic than W. Michael Blumenthal, chairman and CEO. Indeed, *BUSINESS WEEK* has learned, Blumenthal felt so confident of Unisys' future that he brushed off inquiries from American Telephone & Telegraph Co., which, through an intermediary, had expressed interest in buying Unisys when its stock was trading in the \$34 range. Neither Blumenthal nor AT&T will comment on those discussions. But evidently, those close to him say, Blumenthal preferred to be the superstar in his own show.

Perhaps he should have listened to AT&T. Today, slack demand for mainframe computers, excess inventory, and cost overruns in manufacturing have plunged Unisys' earnings and revenues far below what it had projected for 1989. Some

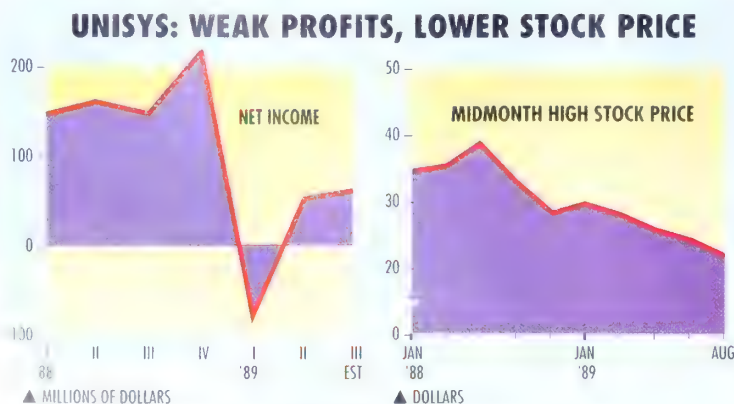
top managers have left, and those who remain say that morale is sagging. Beyond that, the company's aggressive acquisition strategy is in jeopardy: With little cash, debt of \$3.8 billion, and a stock that's trading below \$22, Unisys can't buy its way out of trouble. Says Don Young, who tracks the company at Sanford C. Bernstein & Co.: "The Cinderella story is unraveling."

After what he concedes has been "a lousy six months," some major changes are in the works, Blumenthal says. His goal: cut \$400 million out of annual costs by the end of 1990. On Aug. 10, he imposed a salary and hiring freeze and curtailed capital spending and other expenses. More is coming, including a 7%

to 8% reduction in his 88,000-strong workforce and a consolidation of facilities. Some of that may occur in the current quarter, when Unisys plans to take an undetermined restructuring charge against earnings. Perhaps even more important, Blumenthal says he plans to appoint a president to help him run the company. He isn't talking names yet, but likely candidates include Executive Vice-Presidents James A. Unruh and Curtis A. Hessler.

UNDERACHIEVER. The Blue Bell (Pa.) company was supposed to be doing better than this by now—much better. In swallowing a reluctant Sperry in 1986 to create the nation's No. 3 producer of computers, Blumenthal bet that size would ensure success. Thousands of Sperry and Burroughs mainframe customers, he reckoned, would for years continue to buy new versions of Unisys machines. Gross margins would rise as future machines in each family were built from a pool of common parts.

The resulting profit, meanwhile, would fund aggressive efforts in high-growth markets.



DATA: COMPANY REPORTS, DEAN WITTER REYNOLDS INC., BRIDGE INFORMATION SYSTEMS INC.



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particularly the one for "open systems," or computers that use standard software such as AT&T's popular Unix, which can run on everything from PCs to mainframes. Also seeing opportunity in wide-area networking, Blumenthal last year paid about \$300 million for Timeplex Inc., a maker of multiplexers, which make it easier to transmit huge volumes of computer data. To ensure itself a place in the desktop market, the strongest of all computer businesses, Unisys last year paid \$351 million for Convergent Technologies Inc.

The strategy struck a chord on Wall Street. As Unisys eliminated overhead after the merger, profits rose. Analysts grew bullish, labeling the company a "buy" last year. But Blumenthal always said that the real proof would come in 1989, when new products and a better overall focus would stimulate sales. Then, he claimed, everyone would see that he was being realistic about trying

**Desertions have left Unisys
short of good technologists
who can also manage well**

to turn Unisys into a \$20 billion company by 1993.

This year has been a turning point, all right, but not the one Blumenthal wanted. The company shocked investors and itself with a \$79 million loss in the first quarter, caused in part by delayed shipments of a new computer. And in the quarter that ended June 30, its overall computer sales remained disturbingly flat—with U.S. commercial orders down 5% from the year before. Cutting prices to move \$310 million in excess inventory squeezed profit margins. An overall \$25.1 million loss for the first half would have been worse save for large sales of real estate. Analysts have thus slashed 1989 earnings projections from as much as \$2.50 a share to about 95¢. They call the company a potential takeover play.

Some of what's troubling Unisys is beyond its control. Like IBM's, its substantial foreign earnings have been hurt by unfavorable currency fluctuations. It inherited from Sperry a procurement scandal in its \$2.5 billion defense business, where orders have been down 50% recently. And, as a mainframe-oriented company, it has suffered, like IBM and others, from computer buyers' shift to smaller, lower-margin machines. Currently, Unisys gets more than 50% of its nondefense revenues from mainframes and related equipment, and a similar share of its total profits.

Worse, Unisys isn't even holding its own in big machines. According to International Data Corp., its global share of installed mainframes fell to just 9.6% last year from the combined 12.2% held by Sperry and Burroughs in 1985. The problem is that customers are finding more add-on gear and software available for IBM computers and are therefore spending less on Unisys machines, a trend that only further discourages suppliers from serving the shrinking Unisys market. The Electric Boat Div. of General Dynamics Corp., for example, is phasing out Unisys in favor of IBM mainframes and engineering workstation from Hewlett-Packard Co.'s Apollo Division. Unisys, says Electric Boat Vice-President Bernard J. Breen, "really didn't fit into our overall architecture."

REMOTE CONTROL. Unisys' brightest spot, it seems, is open systems. That \$1 billion business is growing fast—nearly 20% a year. But gross margins are only 25% to 50%, well below the 65% the company gets on mainframes. That's partly because Unisys, instead of manufacturing, buys many of the Unix-based systems it sells from other companies such as NCR, Aris, and Sequent Computer Systems. What's more, the Unix market is marked by heavy price competition. Says David M. Card, an IDC analyst who specializes in Unix companies: "That's the risky thing about Unix." Unisys' answer is that it has been pushing for market share. And it eventually plans to make its proprietary mainframes more open, giving them Unix-like software.

In the meantime, Blumenthal's management style is taking a few knocks. Former insiders say he's too distant and distracted by non-Unisys matters such as politics. He has lost key executives, including the top men at both Timeplex and Convergent, leaving his team practically devoid of good technologists who are also experienced in running companies. Middle managers, meanwhile, are anxious about their jobs. Says one who recently left: "The corporate strategy direction has largely disintegrated, and different points of view are at war with one another."

"This company is anything but falling apart," says Blumenthal, who expects a strong fourth quarter. But Wall Street has cut its earnings estimates for 1989 from the \$4 range to about \$2.50. Blumenthal, now 63 and believed to be within two years of retiring, won't discuss the question of succession—or the possibility that Unisys might be taken over. But whatever happens, it seems that the company does become the titan envisioned, it will be with someone else in charge.

By Joseph Weber in Blue Bell, Pa.

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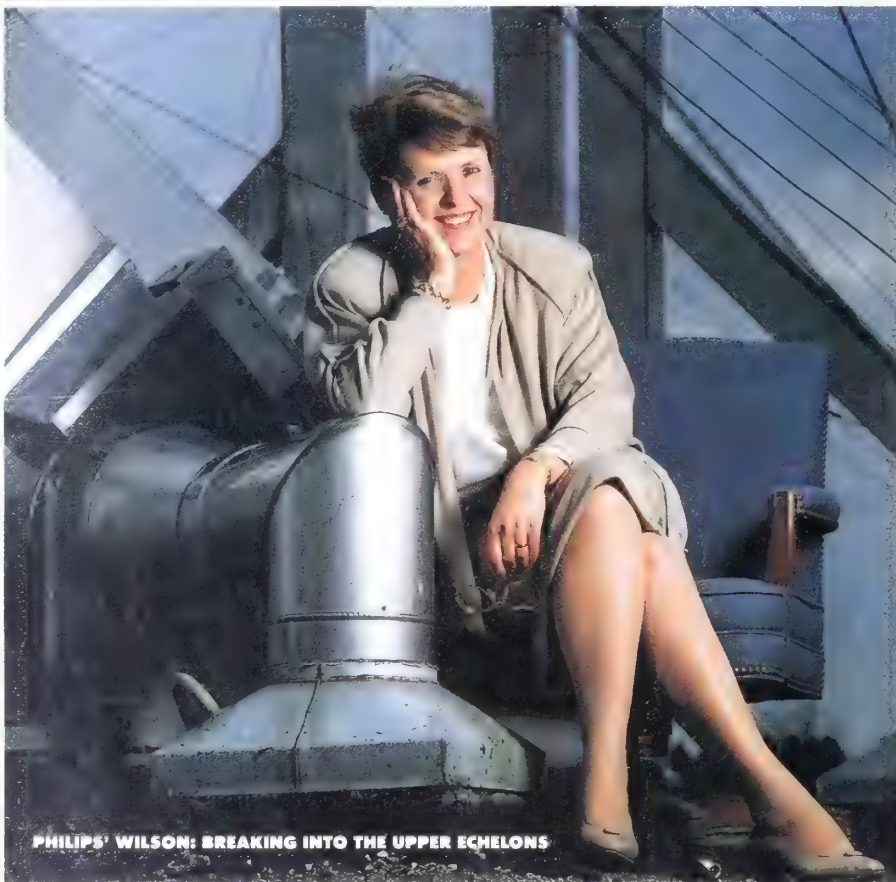
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THE WOMEN WHO ARE SCALING HIGH TECH'S HEIGHTS

It's a hard climb, but many are defying barriers to their sex



PHILIPS' WILSON: BREAKING INTO THE UPPER ECHELONS

When Iva M. Wilson took over as president of Philips Display Components Co. three years ago, the TV picture-tube maker was fighting for its life. Low-cost Asian producers had flooded the U.S. market, and the company was in the red. The first woman ever to head a division of Dutch electronics giant Philips, Wilson moved decisively. She shuttered a plant in Seneca Falls, N. Y., and slashed employment at another facility, while investing more than \$20 million to modernize production. Last year, the company broke even for the first time in five years on an estimated \$300 million in revenues.

It was no accident. The native of Yugoslavia picked up a PhD in electrical engineering, ignoring teachers' suggestions that she'd be better off learning to cook. Then she built an international rep-

utation in vacuum-tube research, rising over 12 years to positions of increasing responsibility in engineering management and product development at Zenith Electronics Corp. Meanwhile, she earned an MBA from the University of Chicago before joining Philips in 1983 as chief engineer of the components division and manager of a staff of 140.

Looking back, Wilson, 51, concedes that it hasn't been easy. "People still have difficulty perceiving what a woman in this job can do," she says. "The most difficult thing for women in technology is to open the door."

Wilson is a member of an elite club of pioneering women who, armed with impressive experience and credentials, have broken into the ranks of senior management at high-technology companies. Women in other industries also con-

front obstacles to advancement, but in high-tech disciplines, the barriers are especially formidable—which is why women executives in high tech are so rare. "That means those who do make it are frighteningly competent," admits a male high-tech executive.

The ranks of women in high tech while small compared with financial services, insurance, and retailing, are growing. A handful of women have won executive slots at such technology giants as IBM, AT&T, Hewlett-Packard, Du Pont and Pfizer. "There are visible senior women there, so you know women are moving, even if it's slowly," says Marjorie K. Balazs, founder and chief executive of Balazs Analytical Laboratory Inc. At American Telephone & Telegraph Co., for instance, women now make up 5% of the scientific managers and 10% of all managers who earn more than \$100,000 a year, compared with 3.6% and 6%, respectively, five years ago. At Hewlett-Packard Co., 21% of the engineers, a prime source of future managers, are now women.

'A LOT OF GROWTH.' Women are also more visible at smaller high-tech companies. They are chief executives of nearly 3% of the 25,000 small biotech, medical, pharmaceutical, and electronics companies, according to a data base compiled by Corporate Technology Information Services Inc. Looking just at companies started since 1980, the figure jumps to more than 4%. By contrast, only four of America's largest 1,000 corporations are headed by women.

In 1984, when Digital Equipment Corp. started its Technology Executive Round Table—top representatives from computer-industry companies with revenues of less than \$30 million—none was headed by a woman. Last summer, 5% of the 1,500 companies had women at the helm. This year, the number is expected to hit 8%. At high-tech startups women move faster "because there is so much opportunity," says Ilene H. Lang, president of custom software maker Adelie Corp. "When there's a lot of growth, management is more willing to take chances."

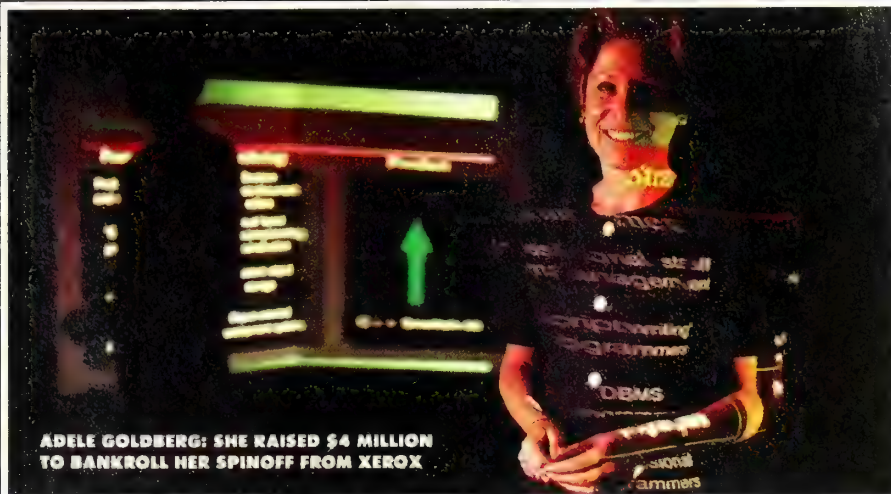
Lang's star rose with the fortunes of

Symbolics Inc., a maker of computers that run artificial-intelligence software. Armed with an MBA from Harvard University and eight years of retailing experience, Lang moved into high tech. When she joined Symbolics in 1982, it was a tiny, \$1 million outfit. Five years later, when she left, Lang had helped lift revenues to \$100 million as vice-president for software and marketing. That experience, plus her contacts, helped end Lang, 49, the top slot at Adelie, a subsidiary of AT&T.

Today's female high-tech managers come from varied backgrounds. Some, such as Joanna L. Jansson, president of Physical Optics Corp., hold technical degrees. Others are MBAs and came up from the business side. Some got their start at big companies, while others founded them. Many entered high tech in the software business, once a second-rate activity in computer circles but now a glamorous, high-margin side. Fully 70% of those interviewed by BUSINESS WEEK started companies with their husbands or took over a family business.

Take Janet M. Baker, president of Dragon Systems Inc., a maker of speech-recognition equipment. Now 42, she holds a PhD in computer science. Her husband, James, who chairs the company, is a specialist in computer-speech recognition. Both worked at IBM's research center in Yorktown Heights, N. Y., and at Verbex, an Exxon Enterprises subsidiary that makes of speech-automation equipment, where she is vice-president for research. In 1982, the pair founded Dragon.

Most women in high tech have tasted the bitterness of working in a male-dominated arena. That environment magnifies the obstacles hindering businesswomen in general—lack of role models, mentors, and contacts; conflicts with family responsibilities; and a "glass ceiling." "Societal myths are still strong about what girls can do," says Betty M. Carter, executive director of the Commission on Professionals in Science & Technology. "Women who try to get into fields considered macho, such as engineering, still face real discrimination."



ADELE GOLDBERG: SHE RAISED \$4 MILLION TO BANKROLL HER SPINOFF FROM XEROX

'TELL THEM WHY YOU KNOW YOU'LL BE SUCCESSFUL'

In 1987, Adele Goldberg was a group manager for programming-language research at Xerox Corp.'s Palo Alto Research Center. When she persuaded Xerox to spin off her software tools as a separate business, Goldberg, then 42, realized she was bucking heavy odds. First came the stock market crash. Then there were the complications of arranging a technology transfer from Xerox.

Finally, there was her sex. "In about 80% of the meetings with venture capitalists, the issue of my being a woman

came up," she recalls. "The question was: 'What makes you think a woman can build a high-tech business?'"

Goldberg's PhD in computer science and her confident business sense carried the day. She raised \$4 million in seed money, and in March, 1988, ParcPlace Systems Inc. declared its independence—with Goldberg as president. Her secret for coaxing money from lenders reluctant to bet on a woman: "Tell them why you know you'll be successful, and move on from there. You're much better off dealing with [gender] issues up front." Another key, she adds, is having a personal network: "We didn't walk in on strangers."

"Females aren't considered as seriously as men," says Patricia McGrath, founder of Tropix Inc., which is working on new ways to detect substances for biomedical and environmental testing. "You become everyone else's first-female-executive experience. They have to go through whatever cultural process they need to, to learn to deal with you."

WAGE GAP. Female engineers complained to researcher Bette Woody, a labor economist at the University of Massachusetts, that they were often shunted to less desirable assignments because male counterparts resist working with them on teams. That's a disadvantage when it comes to promotions, since engineering

and design teams are proving grounds for technical managers. Studies show that although men and women begin at comparable levels, women earn 25% less than men with similar experience after being out of school for 10 years. As time goes on, the disparity grows, says F. Suzanne Jennisches, acting president of the Society of Women Engineers.

Making the transition to general management from technical positions—a well-trod career path for men—is much harder for women. Since many senior executives hold technical degrees or rise through the engineering ranks, their prejudices are reinforced by their lack of experience with women on key engineer-

TEN WOMEN CEOs MAKING THEIR MARK

JANET M. BAKER *Dragon Systems* Develops speech-recognition systems; financed with private funds; 40% revenue growth in 1988

MARJORIE K. BALAZS *Balazs Analytical Laboratory* Does testing for the semiconductor industry. 1988 revenues: \$2.5 million

MARI M. GRIM *WordStar International* Named president of this word-processing software pioneer last year

MARIA S. LIGETI *Qronos Technology* Founded to generate computer-integrated manufacturing software. 1988 revenues: \$10 million

JOANNA L. JANSSON *Physical Optics* Produces fiber-optic multiplexers for telecommunications. Estimated 1989 revenues: \$4.5 million

ILENE H. LANG *Adelie* Stepped up as president of the marketing software company, part of AT&T, last September

LYNNOR B. STEVENSON *Paravax* Former Genentech executive now develops vaccines against parasites. First products for animals

PATRICIA McGRATH *Tropix* Refining technology to detect substances for biomedical and environmental testing

TANIA AMOCHAEV *Natural Language* Joined the software developer last year. Raised \$7.3 million in venture capital in March

DEBI WEXLER *Microcomputer Power* Started with \$5,000 in 1982, MPI markets personal computer systems. 1988 sales: \$31 million

Science & Technology

ing teams. In technical professions, "women simply don't move into general management" as fast or nearly as often as men, says Vetter.

When women do make it, it's frequently because they worked harder to amass better credentials. Men can make the transition to management without an MBA, but that's tough for women. "As a woman in high tech, you will be suspect technically and suspect from a business-manager point of view," says Tania Amochaev, CEO of Natural Language Inc., which markets an English

neering materials research at Allied-Signal Inc., and Mary-Dell Chilton, an executive director of biotech and agricultural research at Ciba-Geigy Corp.

Part of the problem is that scientific disciplines have traditionally been under the thumb of research and academic networks where women still aren't very visible. Take biotechnology: Women scientists are hired in good numbers as researchers, but they're "not getting past the lab," says a former manager at Genentech Inc. Nor are they entering biotech executive suites via other routes.

million to develop a device that causes images on a computer screen to move in response to hand motions. Although Shepard left the company in April over differences with her co-founder, she says she "found less discrimination as an entrepreneur than anyplace else I have worked."

That doesn't mean women entrepreneurs have an easy time getting funding. "Venture capitalists are very nervous about giving money to women," says David E. Gold, a partner at Indo Suez Group, a venture fund.

Just ask Judith E. Schwartz, the 34-year-old founder of Polar Spring Co. in Menlo Park, Calif. Last winter, she made the rounds of Silicon Valley venture capitalists to get backing for a new water-purification system. Most turned her down. One even called her husband the vice-president of engineering, to say that funding prospects would improve if he took over as president. "I have trouble imagining a woman getting a phone call like that about her husband," notes Schwartz. Margie A. Tingley, CEO of Tingley Systems Inc., adds that after 10 years as CEO of her \$10 million company, some clients and suppliers still refer to technical questions to her male partner. **'KEEP TRYING.'** Yet the women who have succeeded have no intention of letting prejudice get them down. "I don't have a lot of patience with complaints about discrimination," says Maria S. Ligeti, president of Qronos Technology Inc., an industrial software house with sales of \$11 million. Before starting Qronos in 1984, Ligeti, now 43, was a co-founder of chip maker Seeq Technology Inc. "If something doesn't succeed, you figure out what went wrong and keep trying."

Unfortunately, younger women seem to be losing interest in taking on the hurdles in high tech. The number of women entering science and technology fields peaked in 1986, then leveled off. And at the last meeting of the American Society for Electrical Engineers, an informal poll of women engineers with 10 years' experience revealed that many are leaving the field, frustrated by sexism and lack of advancement.

That's too bad, because many women who entered high tech a decade ago are now pushing into senior management. More women moving up the ladder means "men will accept women as peers more easily," says Elizabeth E. Tallet, an executive vice-president at Centocor Inc. With foreign rivals chewing away at key U.S. high-tech markets, the nation can't afford to waste anyone's talent.

By Emily T. Smith in New York, with Alice LaPlante in San Francisco, Paul Agiolillo in Boston, Catherine L. Cantrell in New York, and bureau reports



'THE ONLY WAY WAS TO GO INTO SMALL BUSINESS'

Judy M. O'Shea, president of Cholestech Corp., is used to raised eyebrows. "It's no surprise anymore when a woman is running an advertising agency or a retail store, but people are still surprised by a woman running a high-tech company."

Her appetite for the corner office was whetted at Dow Corning Corp. In the late 1960s, when the company became sensitized to discrimination, O'Shea was pushed up through the ranks so quickly that she didn't feel she was gaining the experience she

needed. She also resented being the token female executive. "I decided that the only way I could see if I had what it took was to go into small business."

After starting two high-tech companies, O'Shea, then 42, founded Cholestech last year. She pried \$12 million from venture capitalists to develop tests and treatments for people threatened by excessive cholesterol. The first product is due next year.

O'Shea doesn't expect to be a rarity much longer: "I'm at the front end of a wave of women now in their 30s who, over the next 10 years, will be ready to build their own high-tech companies. When that happens, watch out."

language interface for computer data bases. Amochaev holds a degree in math and racked up eight years in management at Control Data Corp. But she thinks her MS in management from the Sloan School of Business was essential to vault her into the executive suite.

Shifting into management is even more difficult for female scientists than for engineers. Women hold 17% of the jobs in physical sciences and 33% in life sciences, but only a handful of women scientists hold executive slots. Among them is Mary L. Good, head of engi-

Women entrepreneurs say they circumvented some of the barriers by launching out on their own. Says Balazs, who started her company in 1975 after reaching a dead end in the semiconductor industry: "When you start your own company, men put you under a different scrutiny. They recognize it as daring."

Sharon R. Shepard agrees. Several years ago, while working at Westinghouse Electric Co., the mechanical engineer says she hit the glass ceiling. So in 1985, she co-founded Sensor Frame Corp. in Pittsburgh and helped raise \$1.5

MAKING SCIENCE MORE SEDUCTIVE TO WOMEN ON CAMPUS

No one questions that women can excel in science and technology. Barbara McClintock won the Nobel prize for medicine and physiology in 1983, as Rosalyn S. Yalow had done in 1977, and Sally K. Ride has twice flown into space.

The problem is getting women to choose "tekkie" careers—and then to stick with them. Although women represent two-thirds of the graduate students in psychology and about 40% of those in the natural sciences, they make up just one-third of the overall high-technology student body. Only 5% of undergraduate engineering students are women—and by the doctorate level, that percentage slips to less than 7%. After graduation, there's even more attrition. Just 15% of all high-tech professionals are women, and women account for a mere 4% of America's engineers. It is said to be even less.

And that's the good news. Meanwhile, the number of white American males who are taking up science or engineering is declining lightly. Yet demand continues to climb. Foreign nationals are being drafted to plug the gaps, but experts warn against depending on them as permanent replacements, since they may decide to return to their own countries. "Recent gains among women and minorities are not compensating for these losses," says Rich Bloch, director of the National Science Foundation (NSF). "As a matter of national policy, we must turn these trends around."

ORE MENTORS. What discourages females from pursuing high-tech careers? Many talented women, like their male counterparts, simply prefer the more lucrative opportunities offered by business or law. And when women do plunge into science or engineering, they definitely have an upstream swim. Even in high school, they must buck cultural and sociological barriers, and at graduate school, they find themselves sorely isolated. With a dearth of male professors, they have few role

models and often face subtle discrimination from male teachers, especially those who hail from countries where old-fashioned attitudes toward women still prevail.

Sweeping changes are required to alter the outlook for women, who begin to leak out of the science and engineering "pipeline" way back in elementary school. There, girls get less attention than boys, according to education experts, and parents and teachers often steer girls away from mathematics and science. The result: Males begin to surpass females on math tests as early as age 13, and in science, boys outscore girls sooner. Because of this early "programming," says

Daniels, director of women-in-engineering programs. When first-year males do badly, she adds, "they blame it on the test or the teacher."

As an antidote, Purdue now requires all women engineering students to attend a seminar designed to help them overcome their lack of confidence and create a support network. It seems to be working: Purdue claims to graduate the largest percentage of females—about 22% of all engineering grads.

Berkeley's computer-science department had a similar problem. Five years ago, the first course in computer science was make-or-break time, and far more women were washing out than men. The importance of this initial grade was scaled back, and now the computer-science program is one-third female.

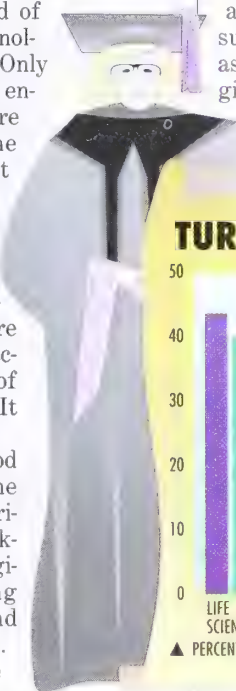
'VICIOUS CYCLE.' Graduate school is where the most women are lost. In electrical engineering, for example, only 2% of the 2,500 or fewer women who annually earn undergraduate EE degrees go on to receive doctorates. The most important factor, according to experts, is a lack of female mentors. When such role models are provided, the situation reverses. In a study by Elizabeth Ivey, chairman of the physics department at Smith College, women who received science degrees from women's universities—where faculty is 45% female—earned twice as many

PhDs as women who attended coed institutions.

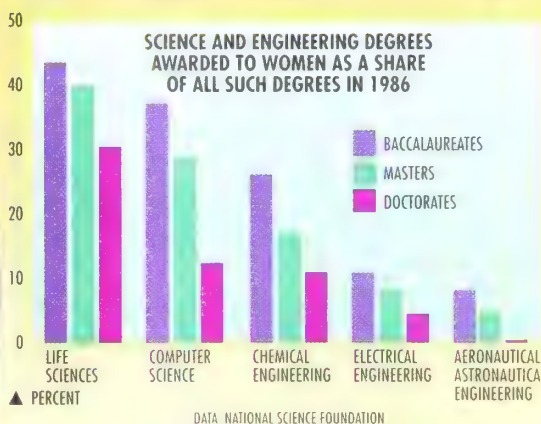
"It's a vicious cycle," says Betty M. Vetter, executive director of the Commission on Professionals in Science & Technology. "As we graduate fewer women, we get fewer women faculty members" to serve as mentors. The ranks of female academics at coed schools dropped to 21% in 1986, from 28% a decade before. In engineering, a mere 2% of the nationwide faculty is female, and they usually are clustered at the assistant-professor level.

To break that pattern, the NSF pegged almost \$13 million last year to provide women scientists with research funds and appointments as primary researchers at universities. But it will take more such intervention before today's talented women may rise to the challenge in science and engineering.

By Naomi Freundlich in New York



TURNING AWAY FROM HIGH TECH



Marcia C. Linn, a professor at the University of California at Berkeley's Graduate School of Education, women head off to college less confident in these subjects.

To counteract this problem, some engineering schools—notably Clarkson University, Purdue University, and the New Jersey Institute of Technology—invite talented high-school women to their campuses and introduce them to engineering. And the Society of Women Engineers has set up a mentor program with junior-high girls.

Once they enroll female candidates, universities are also working to keep them on the technology track. At Purdue, for example, women were dropping out because of problems with the traditionally tough first-year engineering curriculum. "Women are very quick to say: 'Maybe I'm not cut out to be an engineer,'" says Jane Zimmer

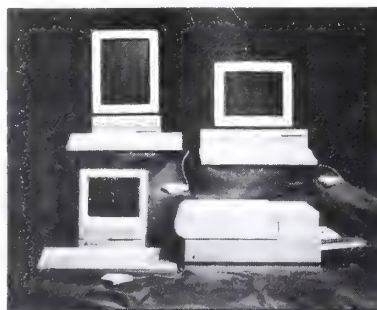
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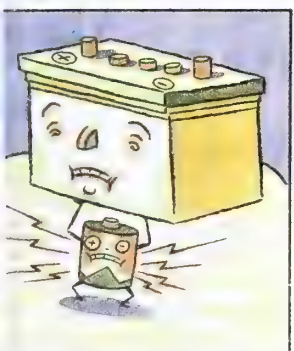
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LEAVING HEADLIGHTS ON ALL DAY WON'T FAZE THIS BATTERY



Jumper cables could go the way of buggy whips, thanks to the Champion Switch car battery. It packs a one-two punch: a main battery plus a reserve power source, both squeezed into a case slightly smaller and 25% lighter than regular 12-volt units. The spare battery stores enough juice to start a car at least 20 times even if the main battery is totally dead. Just flip a little yellow switch on

the Switch, and the Champ gets a second wind. Developed by Australia's Pacific Dunlop Ltd., the Switch will be available this fall in the Southeast. Come spring, it could be stocked by all Montgomery Ward & Co. auto centers. Its price will be close to other top-end batteries—around \$100. Developing the Switch took a decade and \$50 million, including the cost of automated production lines in Australia and at the Columbus (Ga.) plant of subsidiary GNB Inc. To auto makers, the battery's fail-safe feature is just for starters. Cars are being fitted with so many electronic gadgets that 12-volt batteries will soon yield to 24-volt models. There's room under the hood for such huge batteries. But Switch is built from half-inch-thick power modules that could be installed in doors or under seats to deliver the extra voltage.

ON OF GATORADE: COMING SOON TO A STORE NEAR YOU?

After a vigorous workout, athletes need more than a swig of Gatorade, which just quenches their thirst by replenishing lost fluids and body salts. So Dr. Robert Cade, the University of Florida physiologist who devised the formula for Gatorade 24 years ago, has cooked up a new drink, called Go! It's a dairy-based beverage containing the vitamins, minerals, and amino acids that help muscles recover from strenuous exercise. Members of the Florida swim team who guzzled it were able to train 30% harder with no ill effects. Blood samples from swimmers who didn't get Go! had twice as much CPK (creatine phosphokinase), an indicator of muscle-tissue damage. Nutri-Products Inc., which markets the drink, reports a threefold sales gain since its January debut. Kroger Co. plans to carry it in its Atlanta supermarkets by September. When the rest of the country will get Go! is uncertain.

DIOS, VOYAGER 2 -BUT KEEP IN TOUCH

As Voyager 2 streaks toward its historic rendezvous with Neptune, technicians at the Jet Propulsion Laboratory already looking ahead to the space probe's next 40 years. The rest of Voyager's life, an "expert system" computer program will assume the job of monitoring its flight. Some September, the craft will be hurtling into deep space. So much will happen there, so NASA won't keep a mission-control team at its terminals. But Voyager 2 will continue to relay a flood of intense scientific interest: At what distance, for in-

stance, will the probe slip from the last vestige of the sun's gravity? To spot such milestones, the tireless computerized expert will keep tabs on the telemetry and will alert human operators when it detects anything unusual. And if a problem crops up, the system will even suggest what to do about it.

Ursula M. Schwuttke, a JPL engineer, directed development of the software, using a "shell" program from Software Architecture & Engineering Inc. Next, the expert system will monitor the October launch of the Galileo space telescope. When everyone is satisfied that it works properly, it will displace some human operators. "But the goal isn't just to do things cheaper," says Schwuttke. "It's to do things better."

'LIQUID BREATH' THAT MAY SAVE PREEMIES' LIVES

Back in the 1970s, scientists tried to create artificial blood plasma from certain liquid fluorocarbons. That didn't work. But now the same type of chemicals may get a second chance to save lives—by helping premature infants to breathe.

Fluorocarbon fluids have a prodigious capacity to soak up oxygen, and pumping an oxygen-rich fluid into a baby's lungs would be better than hooking a "preemie" up to the usual respirator, says Thomas H. Shaffer, professor of physiology and pediatrics at Temple University. Respirators put the oxygen under so much pressure, he explains, that an immature infant's lungs can be damaged, reducing the odds of survival.

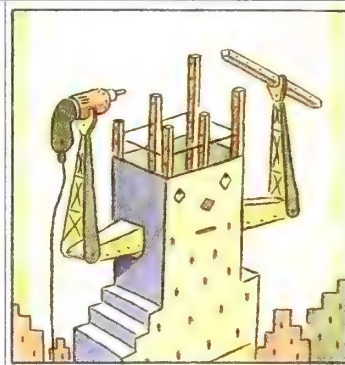
Last May, doctors at St. Christopher's Hospital for Children in Philadelphia used Shaffer's breathing solution to keep alive a premature infant girl who weighed a mere two pounds. The tiny patient eventually died, but doctors believe that the liquid-breathing technique prolonged her life. Shaffer has received approval from the Food & Drug Administration to try the technique on other infants who would otherwise not survive. Someday, it might also help adults with severe lung ailments.

A HIGH RISE BUILT WITHOUT HUMAN HANDS—WELL, ALMOST

Japan's booming construction industry is grappling with a labor shortage. To fill the gap, foreign workers are flooding in. But Osaka's Ohbayashi Corp. has another solution: buildings that virtually build themselves.

Because the Tokyo government has long promoted automation as preferable to foreign labor, other construction companies have plucked technology from the factory floor for robot welders and concrete sprayers. But Ohbayashi is going further and applying full-blown computer-integrated manufacturing to the building site. The high-rise assembly process begins with a "superconstruction floor," or SCF. This bootstrapping module is outfitted with vats of concrete, steel pillars, prefabricated walls and floors, and various robot cranes, welders, and concrete sprayers. Once the foundation and ground floor are ready, the SCF climbs its own steel frame to tack on successive floors.

Ohbayashi claims that its system, which can toil 24 hours a day, could put up a 40-story building in half the time normally needed. Moreover, it requires only one-tenth the usual number of human workers. The first big test is slated for next year.



VOLVO'S RADICAL NEW PLANT: 'THE DEATH OF THE ASSEMBLY LINE'?

The carmaker's experiment in ending deadly routine has sparked interest worldwide

In a trial run, Roger Holtback, president of Volvo Car Corp., exchanged his usual Saville Row suit for coveralls and assembled a car all by himself at a new plant in Uddevalla, Sweden. Holtback managed to drive off in the finished Volvo 740, though it was by no means free of defects. "It started nicely, but it wouldn't have been delivered to a customer," Holtback says. "I felt like an apprentice." Still, this 1987 experiment reinforced Volvo's radical decision to mass-produce the midline 740 at Uddevalla without using assembly lines.

In full production since early this year, the plant employs teams of 7 to 10 hourly workers. Each team works in one area and assembles four cars per shift. Since members are trained to handle all assembly jobs, they work an average of three hours before repeating the same task. Uddevalla thus avoids the classic problems associated with work cycles of only one or two minutes on conventional assembly lines, where the mind-numbing routine leads to boredom, inattention, poor quality, and high absenteeism.

HUMAN CONCERNS. Volvo's attempt to eliminate these problems and still operate efficiently is bringing worldwide attention to Uddevalla. Throngs of reporters, especially from Japan, were on hand when the plant recently opened its doors to visitors. It is stirring up interest in the U.S., where the United Auto Workers and American carmakers are searching for an assembly system that can compete in terms of productivity and quality with Japanese plants while making the work less onerous.

But Holtback insists that Uddevalla should not be viewed merely as an effort to make workers happy. "We're not doing it because we are nice guys," he says. "We are doing it because we like experiments." Without Volvo refuses to re-

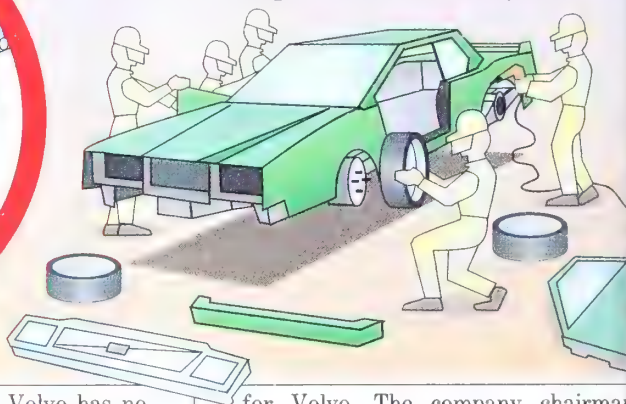
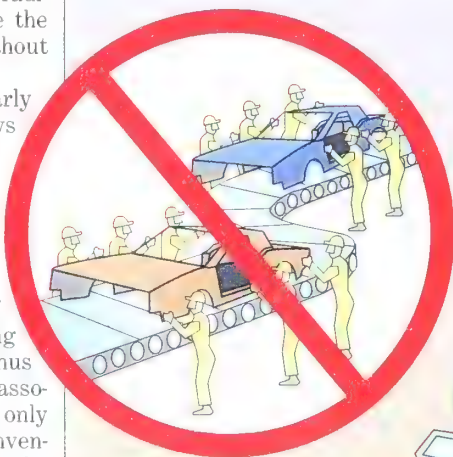
lease productivity figures, the company claims that Uddevalla already produces cars with fewer hours of labor and better quality than its three other Swedish plants.

It wasn't a lack of success in the car business that drove Volvo to design such a radically different system. Sales totaled \$16.1 billion in 1988, a 50% increase since 1983. Last year, operating profits

new, \$220 million plant in Uddevalla, a North Sea port that once boasted a large shipbuilding industry. To bring jobs back to the area, the Swedish government aided Volvo with large tax write-offs. And the Metal Workers' Union, a staunch supporter of work reforms, cooperated with the company in planning the plant and training the work force. Such labor-management cooperation is not unusua-

HOW VOLVO'S TEAMWORK WORKS

Teams at the Uddevalla plant largely manage themselves, supervised by only two tiers of managers. Morale is high, and absenteeism is only 8%.



totalled \$1.2 billion, and Volvo has no net debt. But it has a problem that haunts all Swedish manufacturers: The country's highly educated, well-trained labor force doesn't like to work in factories.

Volvo's Swedish plants suffer absenteeism of 20%, and almost one-third of its workers quit yearly. More pay does not motivate Swedes; taxes take up to 70% of any overtime pay. With unemployment at 1.6%, there is no lack of jobs. Says Per-Olov Bergström, a national bargainer for the Swedish Metal Workers' Union: "The main problem in the '90s simply will be to keep a work force."

So Volvo built the

for Volvo. The company chairman and CEO, Pehr G. Gyllenhammar, put two union delegates on Volvo's board in 1971, before Swedish law required it.

Volvo also has been a leader in experimenting with new work systems. Its Kalmar plant, opened in 1974, grouped 15 to 20 employees in teams that also operated without a moving assembly line. Each team builds large sections of a car, and Kalmar now has an average work cycle of 30 minutes. The company says productivity is higher here than at its large, conventional assembly plant at Gothenburg, which has relatively few teams. But absenteeism at Kalmar remains at 17%, only a notch below Gothenburg's 19% to 20%.

Uddevalla goes much further than Kalmar. It is divided into six assembly plants, each of which has eight teams. The teams largely manage themselves handling scheduling, quality control, hiring, and other duties normally per-



GYLLENHAMMAR FAVORS WORK REFORMS

formed by supervisors. Indeed, there are no first-line foremen and only two tiers of managers. Each team has a spokesperson/ombudsman, who reports to one of six plant managers, who in turn report to Leif Karlberg, president of the entire complex.

Morale seems high at Uddevalla. Absenteeism is only 8%. Workers have a spectacular view of a fjord. The plant is well lighted, and noise is subdued. "This factory is exceptional even for Sweden," says Mariane Apelman, a former shipyard welder and now a shop steward. My children are 9, 10, and 11. They'll have a good work environment when they graduate. This is the right way." Volvo gives its workers 16 weeks' training before they are allowed near a car, and on-the-job orientation lasts 16 months more. Pay averages \$10 an hour. Volvo's goal is to produce 40,000 cars a year by 1991 in single-shift production. That's a relatively small volume compared with the average 120,000 production of most auto plants. Other Volvo plants produce all of the 740's components and perform the major operations: stamping, welding, and painting car bodies that are shipped to Uddevalla.

RAFTSMANSHIP. After entering the plant, the car bodies glide noiselessly on magnetic tracks to the assembly points, where Volvo-designed machines lift and tilt the body to any angle. More than 90% of the assembly can be done from a comfortable working position with no bending or stretching. Teams determine how long they'll work on a car and take responsibility for fixing defects. Boasts Volvo's Karlberg: "This isn't just new production technology. It is the death of the assembly line. We've brought back craftsmanship to auto making."

But skeptics question whether Volvo's proach will spread. "I don't think it will be any kind of industrial revolution," says John F. Krafcik, a consultant at the International Motor Vehicle Program at Massachusetts Institute of Technology who has studied 80 auto plants. "Uddevalla can achieve a high level of quality," he adds, "but there is no way it can match the productivity of reasonably efficient, mass-production system, Japanese or American."

Japanese auto makers, the most efficient in the world, show no indication of itching from the moving assembly line. U.S. companies have taken a few steps in that direction, and many in the West prefer a Volvo-style, autonomous group approach to the Japanese system of closely supervised teams. If the Volvo concept does indeed increase efficiency over the longer term, then pressures may mount in the U.S. to begin replacing the assembly line.

By Jonathan Kapstein in Uddevalla, Sweden, with John Hoerr in New York

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HEART TRANSPLANTS: THE BEAT HAS PICKED UP

Jimmy Moore is one of the lucky ones. Three years ago, at age 29, the Easley (S.C.) resident had a heart transplant. Last October, he finished his fourth triathlon—he swam six-tenths of a mile, rode a bike for 25 miles, and wrapped it up by running 6.2 miles. But this display of exuberant health is not what makes Moore fortunate: He's lucky he has a heart at all.

Today, about 1,200 people are waiting for heart transplants; 30% of them have been waiting for more than six months. And 300 of these patients are, in effect, on death row: They'll die without ever getting a new heart. "The difference between supply and need is growing dramatically," says Moore's surgeon, William H. Frist, director of the heart transplant program at Vanderbilt University Medical Center and the author of *Transplant* (Little, Brown, \$18.95). But it doesn't have to be that way, because there are potentially enough organs available. About 25,000 people healthy enough to be organ donors die unexpectedly every year in the United States, most of them in accidents. But fewer than 4,000 become donors of hearts or any other organs (box).

What makes the heart

shortage so acute is the soaring number of transplant operations. Last year, there were 1,647 heart transplants in the U.S., up from a pioneering 172 in 1983. "What was once unattainable is now routine," says Frist. And many patients live a long time and lead normal lives. Their one-year mortality rate is below 20%, and their 10-year mortality rate is a mere 27%, according to a study by the International Society for Heart Transplantation.

TERMINAL CASE. Typical heart transplant patients are white, male, and over 45. Frequently, they're not long-term or chronic sufferers of cardiac disease—but, to qualify, they must be terminal cases. Often they're shocked at the sudden onset of their condition.

Jimmy Moore certainly was. One day he went to the doctor and was diagnosed with the flu. Two days later, still weak and feverish, he went back to the doctor. Flu again. Everybody's got it, he was told. But Moore just got worse. Before long, he was vomiting and listless, barely able to move. This time the doctor did a complete physical. The X-ray told the tale: His heart was so enlarged and dilated that the muscle was weakened and could bare-

ly pump. Within two months, he was at Vanderbilt waiting for a new heart. Five weeks later, he had one.

Despite dramatic breakthroughs, the operation and what follows are still an ordeal. For one thing, the immediate post-op period is touchy and extremely difficult. Patients have to go through at least a month of physical therapy to recondition muscles that have atrophied during their enforced idleness. During that time, some patients live in a halfway house.

Also, there is danger when the body tries to reject the heart—something that happens to everyone at least once in the year following implantation, typically in the first three months. Usually there are no symptoms—the problem shows up only through a routine series of cardiac biopsies and is treated with steroids. These drugs, however, weaken the immune system—so that everyday infections, such as colds, can prove fatal.

Heart transplants are not cheap: They average close to \$140,000. What's more, first-year follow-up costs, including medication, are more than \$20,000. From then on, pharmacy bills top \$6,000 a year. The good news, though, is that insurance usually covers



the bulk of the costs.

It can be surprisingly hard for patients to convince the rest of the world that they're not sick anymore. Like people who have overcome cancer or mental illness, transplant survivors are treated with kid gloves. Jimmy Moore, for instance, knew better than to try to get his old construction job back. Even his buddies

SO MANY PATIENTS, SO FEW DONORS

Every 30 minutes, a new name is added to the waiting list for organ transplants—which has currently ballooned to 17,000 people. There are many more candidates for the list, but the

number is purposely held down to avoid raising false hopes: Many of these patients will never obtain the organ that they're seeking.

Consider this: In the U.S., 15,000 people are waiting for a kidney. About 10,000 will get one. But about half of the 90,000 dialysis patients should have one. This stark difference between demand and supply is particularly discon-

certing because more kidney transplants would cut the nation's ballooning health care expenditures. According to the Annenberg Washington Program of Northwestern University, a health care think tank, follow-up medical costs after a \$32,000 kidney transplant are only about one-third as much as the cost of continuing dialysis. Savings can reach \$25,000 a patient

each year. And as hearts, kidney transplants have a high success rate: of the patients survive at least a year.

Livers are less in demand. The procedure is not as common because of its cost—\$267,000—and lesser efficacy. The one-year survival rate is only about 70%. So, nearly 500 people are in line for new livers, and



nected, matches donors and recipients—based on location, tissue and blood type, body size, and the urgency.

UNOS ironed out some of the kinks, but it did nothing for the bigger challenge of lining up more donors. Nor is the health care system doing much to recruit them. All hospitals receiving medicare funds must have policies mandating that the next of kin of brain-dead patients with healthy organs be asked whether they want the relative's organs donated. But rather than add to the family's distress, doctors and hospital administrators often fail to follow these rules.

FAMILY AFFAIR. All this makes it crucial that people wishing to donate organs tell their relatives. In 42 states, driver's licenses contain check-off boxes for expressing a desire to be a donor. Carrying an organ-donor card or writing a living will can accomplish the same purpose. But whichever way is chosen, organ donating is still not automatic. These documents are only taken as indications of a person's willingness to donate. One's closest relatives will almost always be asked to make the

o runs a volunteer rescue squad, and he didn't want him leaving the ambulance anywhere. Moore was then turned over for work by the police, sales merchandising group, and even a used car dealer. Now, he's recruiting new businesses for the Easley Chamber of Commerce. Others, however, have

eased back into demanding jobs. Of course, it helps when the patient built the company. Take William McGowan, chairman and CEO of MCI Communications, the long-distance phone company. Knocked out

of commission for almost a year following a near-fatal heart attack and subsequent heart transplant, McGowan is up again and running hard—and his company is more profitable than ever.

Getting a heart transplant used to depend on how important you were, how much money you had, and whom you knew. Heart transplant list-jumping was widespread. That all changed in 1984, when the National Organ Transplant Act set up a nationwide computerized system called the United Network for Organ Sharing (UNOS). This system, to which all transplant centers must be con-

final decision.

For information on organ transplants and donations, call Richmond, Va.-based UNOS 24 hours a day at 800 24-DONOR or try 804 330-8500 during working hours. Much as people put off drawing up a will, planning for the possibility that you may someday be a donor is unsettling. In the same vein, it's hard to think that someday you may need a donor. While this may be one of the hardest decisions you'll ever make, it's one that can make the most difference. *Jeffrey Rothfeder*

of 90% will probably be before long; there were 700 liver transplants in S. in 1988.

g a donor can extend each of a lifetime in a stable way. Whether generally in good or not, the organs of people who die suddenly are valuable. Donating heart, liver, and two kidneys a day or two can mean

taking as many as five people off the terminal list, giving them a chance for a healthy new life. Within another week, two corneas could come out of storage to bring the gift of sight back to two others. Perhaps a month later, even the donor's bones and marrow may start making movement less painful for 15 more people. That is the ultimate in volunteerism. *J.R.*

Smart Money

WHEN TO REFINANCE— AND WHEN TO STAY PUT

Now that interest rates have retreated from double-digit heights, legions of homeowners are expected to refinance their mortgages in coming months. But if you're hoping to lighten the monthly payment load, don't rush off to the bank. Lower rates won't automatically translate into savings.

True, current rates are enticing: A fixed-rate, 30-year mortgage has slipped to about 9.5%, roughly 1.5 percentage points lower than in May. And economist Richard Peach at the Mortgage Bankers Assn. reckons that rates might drop an additional quarter- to half-point by yearend if the Federal Reserve Board further eases credit.

But before you begin

**Lower rates may
not translate into
big savings**

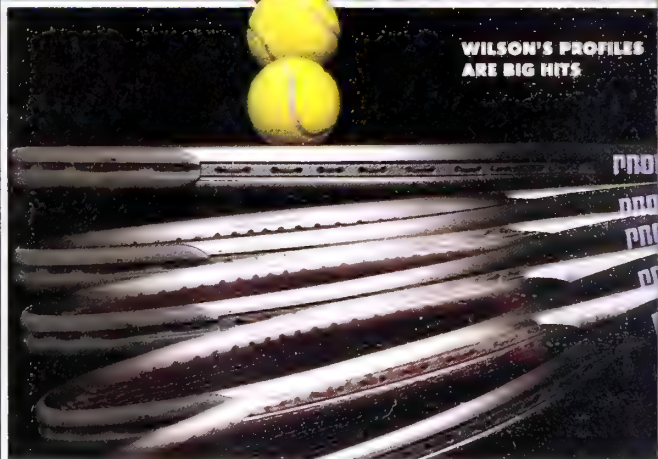
combing through the real estate section of the local newspaper for the lowest rates, keep in mind that a lower rate is only part of the equation. Refinancing involves much of the same paperwork and closing costs you faced in getting the original mortgage. Finance charges, or points, plus the costs of title search and insurance, appraisal, and attorneys run from 3% to 6% of the amount being borrowed. Moreover, you can't deduct the points when you file your income tax return next year. In a refinancing, they can be deducted only over the course of the loan. On top of this, your existing mortgage might carry prepayment penalties.

As a rule, refinancing

makes sense if the prevailing market rate is at least two percentage points below that of your existing mortgage. But it's just as important to know how much longer you plan to stay in your home. Three years is considered the minimum by most experts, and with good reason. If you have \$100,000 in principal remaining on an existing mortgage at 11.5% and want to refinance at the current rate of 9.5%, your monthly payment would drop to \$840.85 from \$990.29 on a 30-year loan. That adds up to an annual savings of \$1,793.28. Not bad. But if closing costs averaged 5% of the principal, or \$5,000, you wouldn't realize a savings until 1992.

CUTTING COSTS. Your best bet to minimize closing fees may be to refinance through your current mortgagor. The Federal National Mortgage Assn., which buys mortgages and helps set industry standards, has waived the need for a new appraisal when your old firm provides the new loan. This could mean a savings of as much as \$250. Fannie Mae has also eliminated second-round credit and employment checks. The waivers apply only for fixed-rate, conventional mortgages.

You may be able to win other concessions if you have been a reliable borrower and your payments are current. For starters, the lender might forgo a new survey, which can cost about \$250. You might also get a break on title insurance fees, which can easily top \$700. Countrywide Funding in Pasadena, Calif., even offers current borrowers a \$250 credit toward closing costs. That's not a lot, but the more you hold down such expenses, the more that refinancing will pay off. *John Meehan*



WILSON'S PROFILES
ARE BIG HITS

What's In

FOR A NET GAIN, TRY A WIDE-BODY RACKET

Tennis buffs are calling it the wide-body revolution, the most dramatic innovation in tennis rackets since the advent of Prince's oversized model more than a decade ago. These wider-framed, hollow-cored rackets are fast becoming the standard among recreational and club players. The reason: more power.

Wide-bodies add speed to any swing, says David Creighton, tennis coach at the University of Minnesota. That's because the racket's frame may be at least twice as wide as the conventional 18-mm midsize frame, making it about 15% stiffer. That may sound like a good recipe for tennis elbow, but makers say other parts of the racket are engineered to be more flexible. And their new hollow-cored construction means that they're lighter than conventional rackets.

According to Creighton, the rackets are "most effective for those with a slower, flat swing," which aptly describes most players. Says Robin Deutsch, equipment editor for *Tennis* magazine: "Beginning and intermediate players find the game easier to play because it takes less effort to drive the ball."

Wilson introduced wide-bodies in 1987 with its Profile

2.7si (the "si" stands for stiffness index). Today, it's the most popular wide-body and costs about \$225. A more recent entry is Wilson's Profile 3.6si, under \$200. Creighton says the new Profile isn't as stiff as the 2.7si but is strung more densely to offer more control, if less power. Another popular model is Prince's Thunderstick 110 (\$250).

NEW STANDARD? Wide-bodies may well become the industry standard. Wilson is phasing out almost all of its conventional rackets in favor of them. And Prince predicts that by 1990, 80% of its own rackets will be crafted in the style.

Former professional player Jacques Manset, 30, a Thorson McKinnon broker in Santa Barbara, Calif., began using a wide-body a few months ago. "I like the power and find it's less stressful on my arm," he says. Spain's 17-year-old Arantxa Sanchez-Vicario, who upset Steffi Graf in the French Open, is the first player to win a major championship with a wide-body. Sanchez says her Slazenger Silhouette 95 "gives me a lot of control and power. I have a lot of confidence with it." So maybe it's time to rephrase the old adage: You can't be too rich, but you can be too thin. *George Felcy*



MONDAY 7:14AM

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Personal Business

Getting Ahead

CRITICIZING YOUR BOSS—TACTFULLY

Sometimes even the boss can be wrong. Beyond making life miserable for the staff, this can cost a company money. But how do you approach and safely criticize the one who O.K.'s your paycheck? Very carefully.

It's important to criticize your manager in ways that spare blame yet stroke self-esteem, says Dr. Hendrie Weisinger, management consultant and author of *The Critical Edge* (Little, Brown, \$17.95). The wrong way: A



staffer complains that the boss's habit of setting unrealistic deadlines "is causing foul-ups, and we think that's why our division is doing so poorly." With this approach, a boss can't admit fault without

having authority undermined, and it sounds as if there's a grumblers' conspiracy.

The right way: Admit that it's important to let clients know that work will be done quickly. Mention that without

staff input, and with too much work in the pipeline quality can suffer, driving clients away. Speaking only for yourself, you've focused on production without challenging your boss.

SAVING FACE. The best approach is two-sided. Admit that meeting with employees takes some of the boss's valuable time. But add that clients would get work when promised, and creativity might be unleashed.

When criticizing, "You've got to avoid appearing to be griper or prima donna," says Ross Webber, a management professor at the University of Pennsylvania's Wharton School. One way to do that: Cloak criticism as a plea for help. That allows your boss to be part of the solution, and not the problem. *Joe Weber*

Investing

BOND FUNDS WITH AN EXTRA KICK

For years, most investors have steered clear of closed-end funds because of their complexities and their unfortunate habit of plunging in price shortly after they are brought to market. But real values can be found among the closed-end funds at times, and right now, that's especially true of closed-end convertible bond funds. So says Thomas Herzfeld, a Miami investment adviser who specializes in closed-end funds and whose *Encyclopedia of Closed-End Funds* is due out in September.

A company's convertible bonds can be exchanged for shares of its common stock, at a preset price. Because of their equity feature, convertibles usually trade at a premium of at least 20% above their conversion value—the worth of the shares at current market prices. While the stock market is up about 25% this year, the convertibles have failed to keep pace. So their premium over conversion val-

	Share price	Discount*
AMERICAN CAPITAL CONVERTIBLE SECURITIES	\$22	-11%
BANCROFT CONVERTIBLE FUND	19	-15
CASTLE CONVERTIBLE FUND	19	-16
ELLSWORTH CONVERTIBLE GROWTH & INCOME FUND	8	-14
LINCOLN NATIONAL CONVERTIBLE SECURITIES FUND	14	-16
PUTNAM HIGH INCOME CONV. & BOND FUND	8	-8
TCW CONVERTIBLE SECURITIES FUND	8	-13

*Compared to value of portfolio

DATA: THOMAS J. HERZFELD ADVISORS INC.

ue has shrunk, on average, from 20% at the beginning of the year to 15% recently. In other words, convertible bonds have become cheaper in terms of the stock for which they can be swapped.

Let's say that a \$1,000 bond can be converted into 50 shares of stock at \$20 per

share. In February, this typical convertible bond would have been trading at \$1,200—a 20% premium to conversion value. But the underlying stock has climbed to \$25 a share, so 50 shares are worth \$1,250. That has helped pull the price of the bond up to \$1,437—a 15% premium over

conversion value. Not bad, but less than the proportionate rise of the stock.

LESS RISK. At the same time, closed-end convertible bond funds are trading at especially steep discounts to net asset value (table), the current worth of their portfolios. Some funds are discounted as much as 16% below NAV, meaning you can buy into their pool of convertibles at a zero premium over conversion values. The advantages are twofold, says Herzfeld. For the same price as the stock you pick up fat, bond-like yields. And because convertible bonds are senior to common, you will run less risk if the issuer gets into trouble. *Laura Zin*

Worth Noting

■ **GROWTH GUIDE.** *The Entrepreneur's Guide to Capital* (Probus Publishing, \$25) outlines the advantages and disadvantages of stock, debt, and partnership techniques for capitalizing or refinancing small businesses. Among them are private placements,

convertible loans, and letters of credit.

■ **FIGURING FAT.** The American Heart Assn. says that no more than 30% of your calories should come from fat. Gleaning such a number from food labels requires some arithmetic: Multiply, say, the listed 20 grams of fat per serving by 9. Then divide 180 by total calories.

A few suggestions for those who decide to go with another international long distance company.



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Index to Companies

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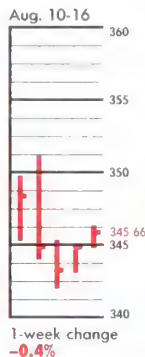
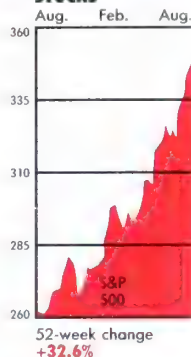
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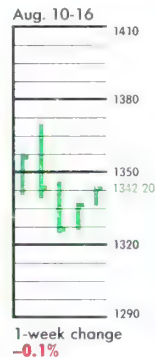
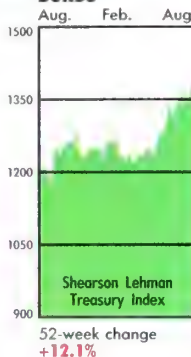
MARKET COMMENTARY

Stocks had an uneven week. On Aug. 11, the news of a 0.4% decline in July producer prices eased inflation fears, and the Dow industrials reached an all-time high of 731 during the day. But the strong retail sales number sent stocks into a tailspin, and stocks ended the session down 28. Auto sales rose early in the week, in response to better-than-expected sales. The dollar rose as the prospect of a recession lessened, and the Nikkei stock index in Tokyo hit a new high.

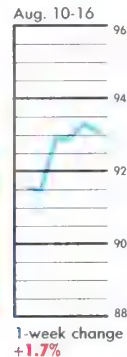
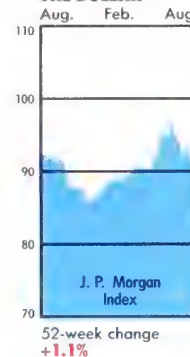
STOCKS



BONDS



THE DOLLAR



MARKET ANALYSIS

STOCKS

	Latest	% change	
		Week	52-week
DOW JONES INDUSTRIALS	2693.3	0.3	32.9
COMPANIES (Russell 1000)	182.5	-0.3	31.7
ALL COMPANIES (Russell 2000)	175.9	-0.5	21.0
COMPANIES (Russell 3000)	195.4	-0.3	30.8

FOREIGN STOCKS

	Latest	% change (local currency)	
		Week	52-week
LONDON (FINANCIAL TIMES 100)	2345.8	-0.6	28.1
TOYO (NIKKEI INDEX)	35,084.2	0.6	24.5
TOKYO (TSE COMPOSITE)	4013.4	0.2	22.8

FUNDAMENTALS

	Latest	Week ago	Year ago
90-DAY TREASURY BILL YIELD	8.2%	8.2%	7.2%
30-YEAR TREASURY BOND YIELD	8.1%	8.2%	9.4%
S&P 500 DIVIDEND YIELD	3.0%	3.0%	3.5%
S&P 500 PRICE/EARNINGS RATIO	13.4	13.4	11.8

TECHNICAL INDICATORS

	Latest	Week ago	Reading
S&P 500 26-week moving average	314.3	312.3	Positive
Stocks above 26-week moving average	67.9%	69.0%	Neutral
Speculative sentiment: Put/call ratio	0.23	0.21	Negative
Insider sentiment: Vickers sell/buy ratio	1.94	2.02	Positive

INDUSTRY GROUPS

4-WEEK LEADERS

	% change	
	4-week	52-week
AIRLINES	21.2	99.7
TRANSPORTATION SERVICES	15.6	23.3
RETAILS	15.3	40.9
ENTERTAINMENT	11.6	75.1
TRUCKING	11.5	14.7

4-WEEK LAGGARDS

	% change	
	4-week	52-week
REAL ESTATE INVESTMENT TRUSTS	-3.4	-7.4
FURNISHINGS AND APPLIANCES	-3.1	17.3
INSTRUMENTATION	-1.1	7.1
SEMICONDUCTORS	-1.0	5.9
WELL EQUIPMENT AND SERVICES	-0.6	27.9

Strongest stock in group

	% change		Price
	4-week	52-week	
UAL	45.5	171.2	254 1/4
FEDERAL EXPRESS	17.5	29.8	54 1/2
INCO	19.3	24.0	35 1/2
WALT DISNEY	12.6	84.2	115 3/8
ROADWAY SERVICES	13.7	25.2	37 1/4

Weakest stock in group

	% change		Price
	4-week	52-week	
LOMAS & NETTLETON	-12.9	-32.6	15 1/4
ZENITH ELECTRONICS	-6.1	-17.8	17 3/8
HEWLETT-PACKARD	-1.6	6.6	52 1/2
ADVANCED MICRO DEVICES	-8.0	-29.6	8 5/8
McDERMOTT INTL.	-12.3	21.8	22 3/8

BRIDGE INFORMATION SYSTEMS INC.

MUTUAL FUNDS

LEADERS

	4-week total return	%
NATIONAL AVIATION & TECHNOLOGY	14.0	
HERMAN DEAN	13.6	
FUNDAMENTAL-BACHE GLOBAL GENESIS	11.0	

	52-week total return	%
NATIONAL AVIATION & TECHNOLOGY	69.9	
LARGER SMALL CAPITALIZATION PORTFOLIO	65.8	
ELAWARE GROUP TREND	64.3	

LAGGARDS

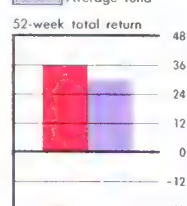
	4-week total return	%
STEADMAN INVESTMENT	-2.1	
NATIONAL REAL ESTATE INCOME	-1.9	
ROCHESTER GROWTH	-1.2	

	52-week total return	%
STRATEGIC GOLD/MINERALS	-20.3	
STRATEGIC SILVER	-13.5	
COLONIAL ADVANCED STRATEGIES GOLD	-8.3	

S&P 500



Average fund



MORNINGSTAR INC.

RELATIVE PORTFOLIOS

Relative amounts
represent the present
value of \$10,000
invested one year
in each portfolio

Percentages indicate
daily total returns



U. S. stocks

\$13,580

-1.33%



Foreign stocks

\$13,151

-2.08%



Treasury bonds

\$12,440

-1.79%



Money market fund

\$10,709

+0.16%



Gold

\$8,450

+0.05%

DATA RESOURCES INC.

Data on this page are as of market close Wednesday, Aug. 16, 1989, unless otherwise indicated. Industry groups include S&P 500 companies only; performance and share prices are as of market close

Aug. 15. Mutual fund returns are as of Aug. 11. Relative portfolios are valued as of Aug. 15. A more detailed explanation of this page is available on request.

THE WRONG WAY TO REFORM RICO

The Racketeer-Influenced & Corrupt Organizations Act is a sword with two extraordinarily sharp edges. Its stiff criminal sanctions, which include seizure of assets even before conviction, make it a dangerous weapon in the hands of prosecutors who don't exercise proper caution. The civil section of the law is powerful, too: Its provisions for triple damages can transform routine contract disputes into huge damage awards. A plaintiff simply has to show that two violations of a variety of laws, usually antifraud statutes, are part of a pattern of illegal activity.

Now, Congress is on the verge of making some of the most significant changes in the law since it was adopted in 1970 (page 26). The measure moving through Congress focuses on the civil provisions, eliminating triple damages in most cases, which would make private suits far less likely to be brought. The curb on such awards would even affect most pending RICO litigation.

Elated business lobbyists are basking in the prospect of victory after five years of failed efforts. They have worked themselves and their clients into a frenzy on the issue, claiming that civil RICO suits have been overused and abused. But the numbers don't support that assertion. Last year, only 14 damage awards were handed out in civil RICO suits.

Equally important, the drive for change is coming at exactly the wrong time. The insider-trading scandal, the successful prosecution of the Princeton/Newport securities case, and the indictments of futures traders in Chicago give credence to those who argue that white-collar crime is widespread, particularly in the financial markets. Prosecutors say they are overwhelmed with cases and need the private sector's civil suits as an adjunct if the law is to be an effective deterrent. The proposal moving through Congress would disarm that weapon.

For the past few years, for better or worse, Washington has been intent on keeping the government's profile low and letting free markets operate unfettered. But RICO's function as an adjunct of law enforcement is valuable and deserves to be preserved. Congress should think twice before undermining this critical device for policing the business community.

SIR JIMMY'S BID ISN'T BAKER'S BUSINESS

A few weeks ago, Sir James Goldsmith, the Anglo-French financier, made an unsolicited bid for BAT Industries. The high-leverage, no-cash deal, which depends on the eventual bust-up of the London-based tobacco, retail, and insurance concern, drew criticism from many quarters. Not surprisingly, the critics included BAT management, some British institutional investors, and members of the British corporate Establishment. They also included Congress with, shockingly, the U. S. State Dept. as accomplice.

This is a British company sought by a British subject. True, BAT employs 55,000 people in the U. S., out of 311,000 worldwide. But they work at such enterprises as Saks Fifth Avenue, Brown & Williamson Tobacco Corp., and Farmacia Insurance Co.—with scarcely a national-security implication among them. Nonetheless, in an unprecedented action, Secretary of State James A. Baker III's Under Secretary for Economic Affairs twice relayed to the British embassy expressions of concern from more than 200 members of Congress. The legislators, egged on by BAT lobbyists, say they fear the dislocation of workers that might occur in the districts should Goldsmith succeed.

It would be bad enough were Baker merely trying to extend the reach of American values and laws to foreign shores, an old and disruptive Washington habit. But he and Congress are trying to hold an offshore takeover to standards we don't apply to ourselves. There was no such concerted action from Congress when Kohlberg Kravis Roberts & Co. took over RJR Nabisco Inc., when Farley Inc. bought West Point-Pepperell Inc., or when other bust-up artists made their moves.

Goldsmith, of course, is a colorful buccaneer who makes an easy target. Passing along potshots at him scored Balaban points on Capitol Hill at little cost. But local politics has no place in international affairs. There must be no repetition of this unfortunate episode.

THRIFTS DON'T NEED THIS KIND OF HELP

Never underestimate the ability of politicians to snatch defeat from the jaws of victory. That's what is about to occur with the \$50 billion thrift-rescue legislation that President Bush signed on Aug. 9. The problem stems from a compromise tacked together as Congress was packing for its summer recess. The President had wanted the rescue's funding to be off the books. He feared it would be a troublesome precedent if Congress kept adding funding on the budget but exempted it from the Gramm-Rudman budget act—a dubious argument, since keeping the bailout off the books was just another way to avoid budget restrictions. But Congress pressed to keep the money on the budget, since financing it by the sale of Treasury securities would save money. In the end, a compromise was reached under which \$20 billion of the bonds would be on the budget and \$30 billion would not.

But now the Federal Deposit Insurance Corp. says the compromise requires that the \$20 billion of bonds on the budget must be spent by the end of the fiscal year, Sept. 30, though the Congressional Budget Office disagrees. There is no way the Resolution Trust Corp., which the legislation created to supervise the industry cleanup, can devise a workable policy for closing and merging institutions so quickly. Most of the money will be used instead to inject lower-cost funds into sick thrifts. But the sickest thrifts need to be shut down, not artificially propped up yet again. It would be a paradox if Administration officials ended up undermining President Bush, who fought so valiantly to do the job right.

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How well an airline maintains its reputation depends largely on how well that airline maintains its planes. Which is why, after considering Lufthansa's record for on-time performance, so many other airlines have asked Lufthansa to help keep their planes in perfect working order.

After all, if so many other airlines ask for Lufthansa, shouldn't you?

People expect the world of us:



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Lufthansa is a participant in the mileage programs of United, Delta, USAir and Continental/Eastern. See your Travel Agent for details.



Anyone can have a great idea. Make sure everyone else thinks it's a great idea.



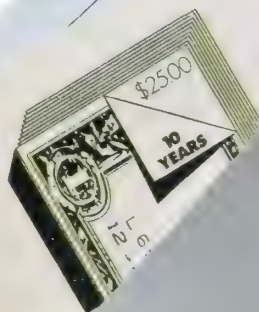
The difference between an idea and an idea that sells can be a Macintosh IIcx computer, an Apple Scanner and a LaserWriter printer.

RETURN ON INVESTMENT

Break even on the HeloCar in one (polished) in the first six months. After one month, return on original investment will reach 80% in the first year.

This phenomenal growth will be primarily due to the LA and NY regions where demand for a major security vehicle will be 4x greater.

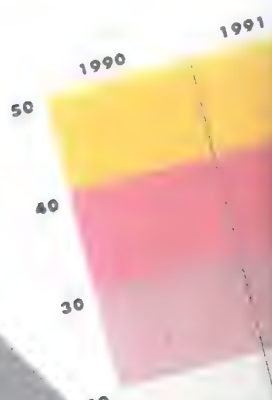
By year 10, everyone from Wall Street to...



THE HELOCAR



A PROPOSAL TO THE BOARD OF DIRECTORS



Prepared by Ben...

You can make a great idea even more brilliant. A Macintosh helps you create everything from heads to slides to brochures in living...

